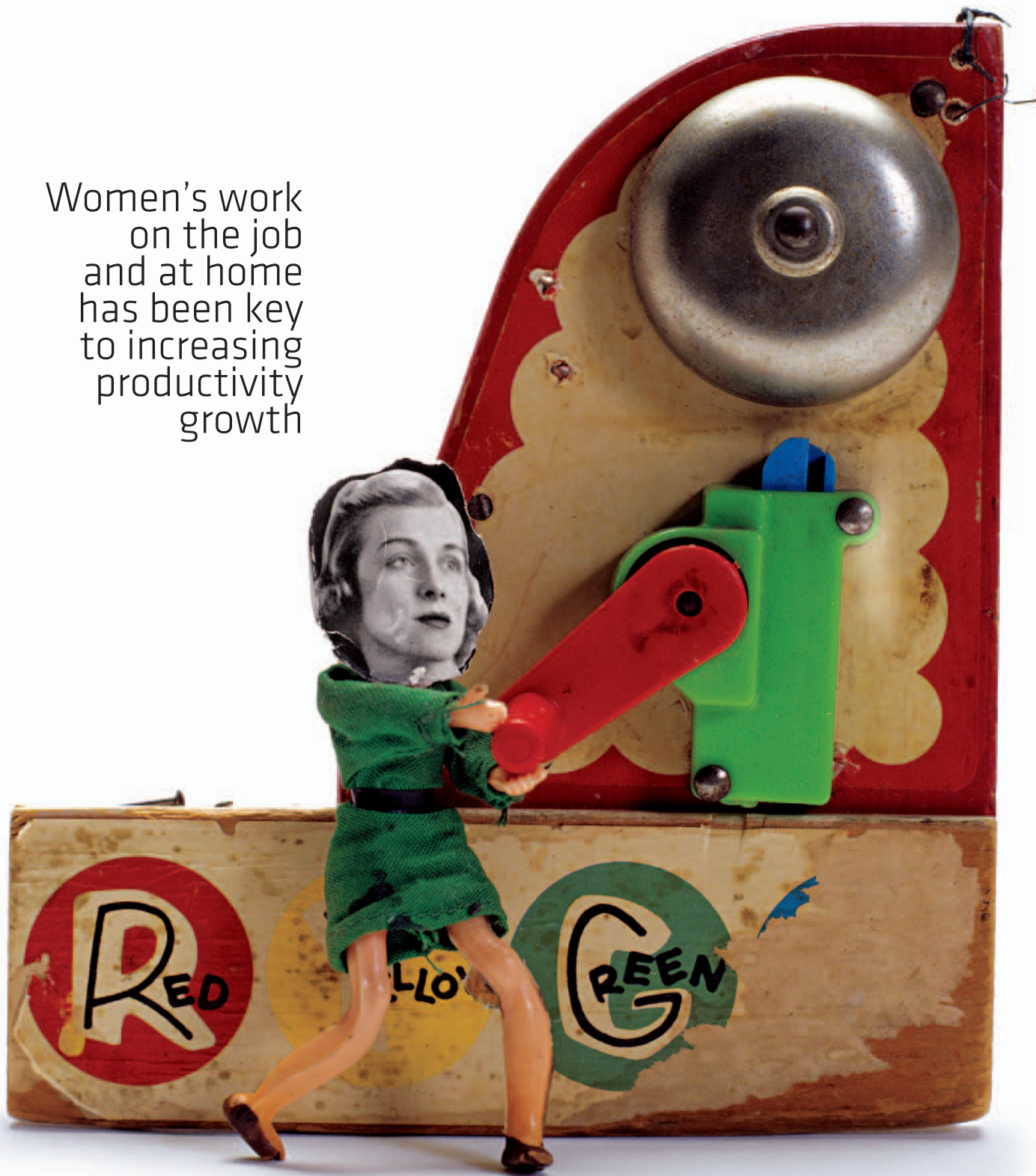
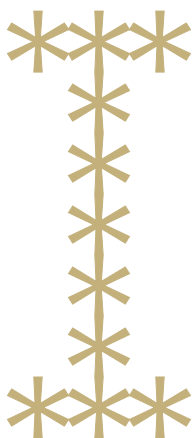


Women's work
on the job
and at home
has been key
to increasing
productivity
growth



by KATHRYN SHAW

women's contribution to productivity



IN THE LATE 1990s, anyone reading the newspaper saw stories describing the New Economy and the accompanying rise in the nation's rate of productivity growth. Labor productivity (measured as output per hour worked), which had previously grown at about 1.5 percent per year from 1973 to 1995, accelerated to about 2.5 percent a year from 1995 to 2000. Although productivity typically falls coming out of a recession, as it did in 2001, more recent data suggest that trend productivity remains high compared to the 1970s and 1980s.

This rise in productivity is quite large by historic standards and brings with it very significant positive implications for the economy. In particular, increases in productivity mean larger potential increases in GDP without the same risk of inflation in an economy where productivity is lower. One calculation suggests that current output per person is about 10 percent higher than it would have been without the productivity acceleration. And, in the long run, increases in productivity raise real wages and allow

The economic contribution women make raising children may not be fully valued when measuring GDP and setting policy



our children to enjoy a higher standard of living, accumulate greater wealth, and pay for programs such as Social Security.

I would like to suggest that women played an important role in this productivity increase, both directly as workers and indirectly in their role in raising children and investing in their communities. However, I would also like to suggest that there are gains to society of having well-educated children, and these gains may not be fully taken into account within families.

Searching for causes

What explains the large increase in trend productivity? There are several possible explanations. Evidence suggests that higher labor quality—improvements in education, training, or other factors— was not the primary cause. Calculations by Jorgenson, Ho, and Stiroh indicate that labor quality grew more slowly from 1995 to 2000 than from 1989 to 1995.

On the other hand, increased investment in computers and information technology (IT) appears to have been very important. Investment in IT rose 19 percent per year in the early 1990s and 28 percent per year after 1995, while the prices of computers and equipment fell more than 70 percent between 1995 and 2000. This is an astronomical rate of increase. Overall, IT doubled its impact during this period, and was pervasive across the economy, both in industries such as computers and electronics that produced IT and in industries (such as retail and wholesale trade and services) that used it—that is, purchased large amounts of it.

Still, IT does not account for the entire increase. An additional large push came from unobserved sources which may be in the form of intangible capital. For example, research by Sandra Black and Lisa Lynch, and others suggests that investments in innovative human resource practices, such as problem-solving teams, job rotation, information sharing, additional training, more effective screening of new hires, and better job security and greater use of incentive pay, were also key. In the United States, these practices began to be increasingly adopted in the late 1980s and early 1990s. Given lags in the effectiveness of these intangible investments, their impact could have contributed to the acceleration in trend productivity.

further reading

“The Female Leadership Advantage: An Evaluation of the Evidence,” by Alice Eagly and Linda Carli, *The Leadership Quarterly*, 2003.

“What’s Driving the New Economy?: The Benefits of Workplace Innovation,” by Sandra Black and Lisa Lynch, *The Economic Journal*, February, 2004.

“The Human Resources Revolution: Is It a Productivity Driver?,” by Kathryn Shaw, in Adam B. Jaffe, Josh Lerner, and Scott Stern (eds.), *Innovation Policy and the Economy, Volume 4*, The MIT Press, 2004.

As workplaces institute more teamwork and on-the-job problem solving, they also change decision-making power, locating decisions with the employees who have the information. IT has brought more information to everyone but especially to people at the ground floor, pushing decision-making lower down the company hierarchy.

Adopting these practices also affects the demand for labor and pushes employers to value problem-solving skills when they hire. Almost all job growth in the last 20 years has been in occupations that require nonroutine problem-solving skills, according to David Autor, Richard Murnane, and Frank Levy. At all levels of the organization, our national expertise now lies in “thinking,” and our competitive advantage lies in producing high-quality, R&D-intensive products. The U.S. doesn’t produce commodities anymore. We produce problem-solvers.

Women’s contribution at the workplace

So, where do women fit in this picture? I would suggest that women have made both direct and indirect contributions to this increase in trend productivity.

The direct contribution has come about from their role as workers in the paid economy. First, women are increasingly better educated than men; 68 percent of women who had recently completed high school were enrolled in an undergraduate degree granting institution in fall 2002, compared to 62 percent of men. And 9 million women were enrolled in undergraduate and graduate programs in 2001, compared to 6.9 million men.

Second, women have a history of success as team players and problem-solvers. In surveys, female managers receive lower ratings on masculine attributes and styles of leadership (task-oriented, directive) but higher ratings for nonmasculine styles (interpersonally oriented, participative), according to studies by Alice Eagly and her colleagues. In the past, when the masculine approach was most valued, this meant that women faced a substantial uphill battle in being (and being perceived as) effective leaders, although lab experiments showed women to be more effective when the roles were defined as less masculine.

More recently, however, there are signs of a change in the ideal managerial style, from one in which leaders sit atop a hierarchy and operate by setting objectives and rewarding those who are successful to one where leaders aim to encourage commitment and creativity and take on the role of a coach or teacher. Driven by an economic environment characterized by an accelerated pace of technological change and intense global competition, this apparent redefinition of the ideal suggests that women may now have a comparative advantage in key managerial skills that are associated with firm productivity. Social networks inside the firm have also been shown to be important, both to women’s advancement and to firm productivity, and women have always been good at building and maintaining these networks.

In sum, women are increasingly well educated, they are adept



quality child care has a social payoff in the range of three to four times its cost. Moreover, early childhood education has a much higher payoff than later remedial education or training. Basic problem-solving skills are more easily taught when a child is young and may be quite hard to teach later on; and some non-cognitive skills, such as motivation, are also more effectively transmitted when begun early at home.

Women have traditionally also been important in investing in the community, and in what Robert Putnam has called “social capital”—the neighborhoods, clubs, and civic associations that help communities work. Some observers have argued that as women entered the paid labor force and withdrew their traditional participation in these organizations, communities have weakened. This is a controversial question, and I am not going to fully address it here. But I would note that while forms of social capital that traditionally supported investment in children—such as the Girl Scouts—have declined, they have been replaced at least in part by others—such as music lessons, extracurricular clubs and activities, and participation in sports. Moreover, some market-provided services such as high-quality day care appear to offer a good substitute for traditional arrangements. So far, there is little evidence that having a working mother lowers a child’s test scores, once other factors are held constant.

Nonetheless, thinking carefully about women’s unpaid contributions to productivity raises some thorny questions. How much are those unpaid, unmeasured contributions worth in terms of GDP? Are women and men investing too much in

Women are increasingly well educated and especially adept at skills such as team-building, problem-solving, and developing social networks on the job

at skills such as team-building and problem-solving that are increasingly valuable to organizations, and they are able to develop social networks in the workplace—all of which make a positive contribution to the nation’s economic productivity.

At home and in the community

Women have also contributed indirectly to increases in productivity and long-run economic growth through unpaid work, both at home raising children and in their communities. Women are still disproportionately responsible for the valuable activity of caring for children, and the economic changes associated with the increase in trend productivity suggest that it has become more valuable than ever to raise children who are problem-solvers and who can think for themselves. There is a substantial body of research suggesting that investing in children has a high rate of return. For example, studies show that once you include such benefits as the reduced costs to the criminal justice system and special education, etc., higher-

their jobs and not enough in their children? And do current organizational practices encourage this overinvestment?

Nancy Folbre’s article includes a quote from Tipper and Al Gore: “At any given moment when the decision between work and family must be made, the workplace has a much stronger ability to quantify and express the immediate cost of neglecting work.” And although the Gores said it better, economists make exactly the same argument: Work provides explicit rewards. Home provides implicit or intrinsic rewards. People care about (their utility function includes) their own wages and their children’s future well-being, but they are unlikely to completely take into account their children’s future wages since investing in kids sends them no actual flow of money.

More specifically, society may underinvest in children for two reasons: First, we receive only the intrinsic rewards from our kids—we love them, we want them to do well—but not all of the extrinsic rewards that would come from greater GDP growth over the long run and higher income for our children. Second,



We might invest more if the social benefits of well-educated children were fully taken into account when parents made decisions about their time

the social benefits to raising well-educated children—a well-educated workforce, reduced costs of various remedial social services—are not fully considered when parents make decisions about their time. We might invest more in our children if we took all of this into account.

Moreover, current organizational practices may be encouraging us to underinvest. Prime examples are the so-called “tournaments” that firms use to determine who makes it to CEO and other top jobs, and the “rat races” that determine which associates make partner at top law firms. These practices tend to reward observable variables like hours of work, rather than talent or productivity per hour, although there isn’t much evidence that very long hours of work or very long years of experience continue to raise productivity on the job. Instead, these practices may simply help in sorting workers or in signaling worker quality, which is economically valuable but doesn’t raise individual productivity. It would be beneficial to find better signals for productivity—signals that are not based on time at work.

Looking for alternatives

Are there alternatives to current practices? And will they also facilitate women’s climb to the top?

One possibility is to reduce the monetary rewards for market work or to increase the monetary rewards for work at home. For example, policies such as income subsidies and maternity leave lower the cost of taking time out of the labor force and increase the amount of time that parents have to spend with their children. However, these policies are clearly expensive for taxpayers and firms, so that the benefits must be weighed against the costs. Moreover, the costs are also borne by women; for example, firms in European countries are thought to avoid hiring young women due to the high costs of maternity leave.

In addition, some current organizational practices have focused on rewarding people for hours, not productivity. But we know there is an alternative from the example of Deloitte & Touche (see page 42). Their attempt to reward productivity or

performance, rather than hours, is encouraging and a path that other firms might emulate, although progress in this direction is slower than one might like. One reason is institutional rigidity—firms may need to be pushed by the market to make these changes. For example, I don’t think that law firms have been pushed yet, perhaps because the surplus of law graduates means that lawyers can be easily replaced.

Increased emphasis on teams and on rewarding teamwork, and less on winning of tournaments would also tend to favor more investment time at home. In addition, many workers, and many women, perform better in team environments.

Finally, greater use of IT to measure performance should help bring both productivity gains and greater personal success for women. Whereas companies traditionally used subjective evaluations and hours worked to reward and promote, now many use enterprise resource-planning systems and other tools which can measure the productivity and talent of division managers quite well. In the long run, this should raise firms’ productivity and help boost women in their careers.

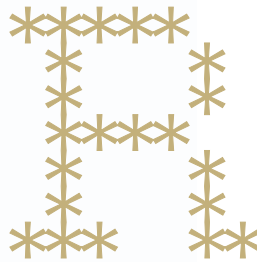
It appears that the labor market is increasingly encouraging firms to pursue policies that emphasize balanced lifestyles—as young men and women prefer jobs with more balance. Companies are increasingly focusing on this issue, but at a slow pace. Attitudes towards taking time off are also becoming more acceptable, but also at a slow rate. We need to ask whether organizational practices simply reflect old organizational habits and institutions or whether they reflect ways of obtaining optimal performance and attracting the right employees. It’s worth keeping in mind that although organizational changes may benefit firms in the long run, the transition can be costly. But perhaps we are moving in the right direction. ✱

Kathryn Shaw is the Ernest C. Arbuckle Professor of Economics at the Graduate School of Business, Stanford University. She has also served as a Member of the President’s Council of Economic Advisors.

by NANCY FOLBRE

gender,
competition, and
the long-run
optimum

spinning the top



EACHING THE TOP, the theme of this conference, seems like an excellent goal. Still, it is useful to consider more carefully what constitutes the top and in which direction the top lies. “Up” is perhaps the obvious answer. But as any mountaineer can tell you, the path to the summit often winds around many smaller peaks. Or, in mathematical terms (the preferred currency of the economics profession), a local maximum is not necessarily a global maximum.

It may seem implausible to many highly skilled professionals that aspirations to top management in a *Fortune* 500 company could represent less than a global maximum. But that is the conclusion to which this article leads. Although existing organizational and cultural practices have the benefit





Women who enter “male” occupations enjoy a positive payoff in the labor market, but may find themselves at a disadvantage in the dating market

of creating incentives to increase output, they may also create perverse incentives that have negative economic effects outside the relatively easily measured world of market outcomes.

I was asked to address two questions: Do existing organizational and cultural practices have a productivity payoff? And, does the *status quo* reduce national production and income? The answers depend entirely on how national production and income are defined. Efforts to assign a monetary value to non-market activities, such as child care, volunteer work, and, more broadly, the intrinsic value of human capabilities, profoundly modify our economic accounts. Thus, while it is important to ask how to improve women's chances of success within our current institutional environment, my goal is different. I argue that women should play a leadership role in redefining our measures of success.

The impact of gender norms

In *Liar's Poker*, his vivid account of working for Salomon Brothers in the 1980s, Michael Lewis describes the challenges facing a new employee who is handed a pair of telephones on the trading floor: “If he would make millions of dollars come out of those phones, he became that most revered of all species, a Big Swinging Dick.” Everybody wanted to be a Big Swinging Dick, Lewis explains, “even the women.” Yet, his next anecdote details the humiliation of a female trainee.

In management, as in other fields, considerable debate centers on the similarities and differences between men and women. It is an irritating debate, sometimes making us feel as though we are being boiled down to a binary gender assignment. Few of us want to choose between simplistic me-tooism (“Girls can do anything boys can do”) and sarcastic self-

righteousness (“Women who want to be like men lack ambition”). The debate becomes more interesting if we back off from simple polarity, acknowledge a multidimensional continuum between masculinity and femininity, and ask how we might be nudged in different directions along it, and why.

Femininity and masculinity are rather abstract concepts. And they certainly may change over time. But in the short run, one way they are reinforced is through the labor and dating markets, where those who don't conform may pay a penalty. In research on labor market outcomes for gays, lesbians, and heterosexual counterparts with similar levels of education and experience, my colleague Lee Badgett learned that while gay men pay a wage penalty, lesbian women seem to enjoy a slight wage advantage. They seem to be more willing than heterosexual women to enter nontraditional occupations (gay men

likewise, but nontraditional occupations for men generally promise lower, not higher earnings).

One reason: a nontraditional occupation may impose costs in the dating and marriage market. Austrian economist Doris Weichselbaumer conducted an interesting experiment using the personal ads published in a free newspaper in western Massachusetts. She placed ads by two fictional white females who differed only in the gender conformity of their occupation, one a nurse, the other an electrician:

SWF, 31, good looking, slender nurse. Enjoys x-country skiing and films. Financially stable. Would like to meet a man for a lasting relationship.

SWF, slim, attractive, electrician, 30, financially stable, likes movies and rollerblading, seeks man for lasting relationship.

The ads ran for five weeks. The nurse received 77 responses, the electrician 39. Apparently, violating gender norms has some negative consequences in the dating market.

Badgett and I explored this further by asking groups of college students to rate 10 similar personal vignettes that randomly varied characteristics such as occupation. We found that (controlling for status, education, and other factors) a woman in a gender-nonconforming occupation is likely to face a reduced pool of potential suitors. The penalties for women are lower in nontraditional jobs that require substantial education or offer relatively high status—a female orthopedic surgeon, for instance, is penalized less than a female electrician. Men in gender-atypical occupations are also considered less attractive—but their earnings power matters more than their gender conformity.

This suggests that men who invest in market-oriented

human capital enjoy two positive payoffs—one in the labor market and one in the dating market. Women enjoy a positive payoff in the labor market if they enter an “unfeminine” occupation (though it may be decreased by discrimination), but their payoff in the dating market is much reduced. It is as though men are competing in two races that require similar training (e.g., the general aerobic conditioning that contributes to success in running a 15K race and a marathon), while women are competing in two races that require different training (e.g., a sprinter’s 100 yard dash and a marathon). It is no wonder that we describe women who combine family and highly successful careers as “superwomen.”

Public policies to promote better work-family balance might make it easier for these women to succeed. But our research suggests that the gender inequality we observe may have deeper sources than the absence of paid maternity leave, or limits to the length of the working day. It may also stem in part from cultural norms of masculinity and femininity that place women at a disadvantage. And it is difficult to explain why women would conform to such costly norms without looking more closely at possible differences in men’s and women’s preferences.

Gender and preferences

Economists tend to sidestep questions about preferences. Yet, common sense suggests not only that it is harder for women than for men to “have it all,” but also that women may want

more than men to “have it all.” Thus, it is worth considering the possibility that when it comes to children, women have more expensive preferences than men.

Such a hypothesis is consistent with a number of the insights of evolutionary biology. Differences in the size and quantity of gametes produced by males and females, combined with the physiological cost of carrying, nursing, and nurturing children, have significant implications for the way preferences may have evolved. Mothers have invested more in individual offspring and have more to lose (in terms of the long-term survival prospects of their genes) from the loss of a child than fathers. Similarly, women lose their reproductive capacity at a younger age than men, and mothers bond more closely and more quickly with offspring than do fathers. Thus, fathers are in a stronger position than mothers to credibly threaten to abandon their children.

A different set of evolutionary pressures operates on males and females. Natural selection rewards males who improve their mating effort by increasing their sexual access to females. It rewards females who increase their parenting effort by improving the likelihood that their children will reach maturity, including bargaining with males for greater support of children. In other words, many centuries of evolution may have favored females who are more willing than males to sacrifice some of their own consumption and leisure on behalf of their children.

These evolutionary pressures may also have implications for

Valuing nonmarket work *The battle to measure work in the home*

The battle to measure and value nonmarket work has a long and fascinating history, punctuated by protests from women’s groups. My favorite example is a letter sent to Congress by the Association for the Advancement of Women in 1878, complaining of the Census Bureau’s failure to acknowledge the productive value of the home and woman as home-keeper. The letter failed to sway federal legislators, but presented a point of view shared by the Massachusetts Bureau of Labor Statistics, which began collecting data in 1865 on the number of adults engaged primarily in housework. A few men (less than 1 percent) fell into this category, and the small number of married women who engaged in neither paid nor unpaid work were categorized as “wives, merely ornamental.”

The English economist Alfred Marshall advised census-takers in Britain to adopt the practice of terming married women “dependents” and exclud-

ing them from estimates of the labor force, because this would make Britain appear to be more productive. Despite shifts to this terminology, early national income accountants tended to argue that household services represented productive work. In 1921, the National Bureau of Economic Research published a landmark study of income in the United States that calculated the value of household services based on estimates of the number of women ages 16+ primarily engaged in housework without monetary remuneration. Assuming that the proportion of “housewives” to the total population remained constant, and that the average value of their services in 1909 was about equal to the average income of persons engaged in the paid occupation of Domestic and Personal Service, they calculated that the value of housewives’ services amounted to 31 percent of market national income in 1909 and 25 percent in 1918.

Within universities, the emerging field of “home economics” created a platform for research on such topics. The first surveys in the United States that used time diaries were administered to small samples of farm wives in the 1920s. National income accounting, however, moved in a different direction. The economist A.C. Pigou insisted that national income should be defined only in terms of goods and services that could be brought “directly or indirectly into relation with the measuring rod of money,” and discouraged the application of such a measuring rod to household work.

In the early 1930s, two women economists published comprehensive studies of the economics of household production. But it was not until the 1990s, under pressure from women’s groups, that most countries moved toward making serious efforts to measure the value of nonmarket work.



the broader development of male and female capabilities and preferences. Physical strength becomes an advantage for males in competition with other males. Selection for mating effort tends to place males in “winner-take-all” games that reward risk-taking behavior. If they fail to mate, helping to nurture offspring becomes irrelevant. Selection for parental effort places females in strategic environments more likely to reward cooperation. Unlike men who face a shortage of potential partners, women face substantial long-term risks of being unable to raise children to maturity. As a result, men and women may have evolved propensities to behave somewhat differently even with similar environments.

This concept of gendered preferences is also consistent with experimental evidence. In carefully controlled laboratory settings in which participants play games with real money payoffs, women behave in more generous and more risk-averse ways than men. Women are particularly cooperative when paired with another woman. Other experiments that compare the productivity of men and women under different systems of compensation (piece rates, competition in which only the relative position matters—that is, the winner enjoys a large premium while the loser receives little) find that men and women are about equally productive under a piece-rate system, but that men try harder and are more productive if payments are competitive, perhaps as a result of greater confidence in their potential success.

Many more experiments of this type will be required to persuade me that these differences are truly important in explaining daily life. But I am intrigued by the thought experiment. What if it were true that women tended to be less competitive than men? Should we try to change our preferences (and those of our daughters) and not just try to behave but also to feel more like men? Or would society lose something important—including a chance to reconsider the role of competition in the economy?

Too much competition?

In the world of neoclassical economics, competition rewards those who successfully pursue their own self-interest. At the macro level, everyone benefits from the increased output that

results from the alignment of incentives and rewards. Competition is generally viewed in the same short-run terms as what evolutionary biologists describe as male preoccupation with “mating success.” It is often remote from the longer-run benefits of rearing the next generation, or what evolutionary biologists describe as “parenting success.”

While competitive pressure is a useful device for encouraging positive economic outcomes, I would like to suggest that more competitive pressure is not always better. Rather, the relationship between competitive pressure and positive economic outcomes may be positive up to a point, but after that the costs may outweigh the benefits. Moreover, there is little reason to believe that our current economic institutions situate us at the right level. Indeed, while other economic systems may suffer from insufficient competition, we may suffer from too much.

Thomas Schelling, a great innovator in strategic modeling, was fond of what he called the “inexorable mathematics of musical chairs” as a way of exploring and understanding the relationship between intensity of competition and economic outcomes. In musical chairs, individuals parade around a group of chairs as music plays. When the music stops, they must sit in a chair. Those who fail are eliminated from the game; but for every person eliminated, a chair is also removed. In the final round, two persons compete for a single chair.

Imagine that individuals are doing something economically productive rather than simply parading to music. The competitive structure of the game urges them to pay close attention and try as hard as they can to grab a chair when the music stops, subject to the requirements of common courtesy. The intensity of the competition is determined partly by the number of players relative to the number of chairs, and partly by the cost of losing. When the stakes are low, the game is lighthearted. But if those who grab chairs are guaranteed lifetime job security while the others are relegated permanently to the unemployment line, the competition can become intense.

Increasing the number of competitors and the relative level of the reward does not always lead to more positive economic outcomes. It is not difficult to imagine a situation in which, if the stakes became too high, individuals would be tempted to violate common courtesy and engage in kicking, shoving, pinching, and eye-gouging. One can even imagine embittered players strapping on explosives in order to blow up the chairs. Much depends on how effectively the rules and civility of the game can be enforced. But holding these constant, increasing the intensity of competition is likely at some point to lead to declining benefits, perhaps even to costs.

One real-world example is in the use of steroids and other performance-enhancing drugs in competitive sports. Such drugs pose serious long-term but uncertain health risks, yet the short-run pressures to use them are enormous—as are the rewards of winning. Without regulation and strict enforcement of rules, drug use can become endemic with an increase in the

further reading

Family Time: The Social Organization of Care, edited by Michael Bittman and Nancy Folbre, Routledge, 2004.

“Contracting for Care,” by Paula England and Nancy Folbre, in Marianne A. Ferber and Julie A. Nelson (eds.), *Feminist Economics Today: Beyond Economic Man*, University of Chicago Press, 2003.

The Winner-Take-All Society, by Robert H. Frank and Phillip J. Cook, Penguin, 1996.

attendant health risks to all players—even as the fact that everyone is using them neutralizes the competitive benefit any one person would have achieved.

In the modern economy, Robert Frank offers a compelling account in which information technology has increased the prevalence of high stakes, winner-take-all tournaments—and the adverse consequences that can arise from them. He notes that the tendency of people to evaluate their welfare in relative terms and to overestimate their chances of success in competition results in people allocating more effort to winning than is justified by the potential social benefits. Frank urges us to think less about individual performance within a given competitive game, and more about the design of the game itself.

Bringing the discussion back to the subject of this conference, many high-paying professional careers, including those of managers, lawyers, and top-level academics, are conducted like winner-take-all tournaments. As a result, both men and women often face a high price for devoting time to family and community, even if they have legal access to parental or family leave. As Tipper and Al Gore put it, “At any given moment when the decision between work and family must be made, the workplace has a much stronger ability to quantify and express the immediate cost of neglecting work.” Like resorting to steroids, working long hours is a competitive strategy that offers no individual advantage if everyone adopts it. And it can lead to a serious misallocation of time away from family and community.

Another example of the negative impact of excessive competition comes from the corporate accounting scandals of the last few years. Forms of executive compensation that were thought



“...when the decision between work and family must be made, the workplace has a much stronger ability to quantify and express the immediate cost of neglecting work”

to represent “optimal contracts” proved distinctly suboptimal because they encouraged cheating and opportunism. Although I know of no systematic analysis of gender differences in such behavior, it has been noted that women were well represented among the key whistle-blowers. At the same time, women who engaged in suspicious behavior were generally held to a higher standard and were subject to more public criticism than men. Martha Stewart is the classic example—last year she appeared on the cover of *Atlantic Monthly* as a witch being burned at the stake.

The care sector

The optimal level of competitive pressure may vary in different economic contexts. It is probably lowest in the traditionally feminine “care sector” of the economy that includes the paid and unpaid work of caring for dependents, and highest in the

more traditionally masculine “physical output” sector of the economy where goods are easily substitutable, and quantity and quality are more easily measured and monitored. In addition, some types of work, such as child care, nursing, and teaching, have intrinsic characteristics that make it difficult to rely on competition as a motivational device.

Empirical research could also help clarify the different effects of competitive pressure. It could reveal differences in propensities to violate the “rules of the game” and how they are affected by factors such as consumer choice, institutional transparency, monitoring costs, substitutability of inputs, and measurement of output.

For all the media attention devoted to corporate scandal, there has been remarkably little focus on such questions as who bears the costs when cheating and malfeasance become endemic. Any infractions of the rules, such as those governing



to improve test scores, but also to encourage a love of learning. The job of an elder-care worker is not merely to prevent bedsores, but also to make patients feel cared for. Incentives to improve performance in the measurable dimensions of these tasks can have the effect of reallocating effort away from those that are less easily measured.

Along similar lines, the care sector of the economy encompasses unpaid work in the home. Much of this could be replaced by the purchase of services—housekeepers, gardeners, nannies—with wages determined by the forces of supply and demand in competitive markets. But hired help do not typically provide good substitutes for personal commitments and family-specific skills.

Social scientists have been known to suggest that parenting could be rationalized and made more efficient by offering self-interested incentives. James Coleman argues that parents should enjoy a public reward based on a calculation of how much better their children perform than might be expected based on their objective characteristics. Shirley Burggraf argues that instead of taxing the younger generation as a whole to support the elderly, we should give parents a legal claim to a

More competitive pressure is not always better; and while other economic systems may suffer from insufficient economic competition, we may suffer from too much

insider trading or mutual fund transactions, undermines investor confidence. But the costs are almost certainly higher when large numbers of workers and consumers are adversely affected. In this area, the poster child for misbehavior is not Enron, or Putnam, but Tenet Healthcare, the nation's second-largest for-profit hospital chain: In 1997, following a chain of lawsuits in which they admitted to defrauding both insurance companies and the federal government, Tenet agreed to pay \$100 million to about 700 former patients for illegally imprisoning them in psychiatric hospitals to obtain their insurance benefits.

If consumers know what they want, have perfect information, have adequate economic resources (or opportunities to acquire them), and are offered a range of choices, they can be expected to make the best decisions for themselves. But in sectors of the economy such as health, education, and nursing homes, these conditions are very hard to deliver. The problem is not lack of information, but its excess and complexity. And many consumers in the care sector are too sick, young, feeble, powerless, or poor to effectively evaluate their choices.

Even beyond issues of information and consumer choice, there is another question: Can we measure the outcomes that matter? The process of caring for dependents has complex emotional and personal dimensions, and includes many non-cognitive inputs and outputs that are difficult to quantify. The job of a health-care provider is not merely to cure an illness, but also to promote health. The job of a teacher is not merely

percentage of their children's earnings. Would daughters then become less desirable than sons, because they earn less?

Apart from the pathology of thinking about children in such instrumental terms, the "quality" of children cannot be reduced to measures of their future earnings. Families don't merely produce "human capital." They also produce human capabilities of much greater and more intangible worth. Every child is helplessly and powerfully unique. As the Texas populist Jim Hightower puts it, "It's easier to count the seeds in the apple than the apples in the seed."

All these factors are relevant to a consideration of the optimal level of competitive pressure in the economy and to efforts to derive better estimates of the value of care services provided outside the market.

Accounting for care

National income accountants don't get nearly as much scrutiny as corporate accountants these days. One could argue that national accounts matter less, because they are not informing decisions to buy and sell. But political regimes compete on the basis of certain measures, among them the rate of growth of GDP. And national income accounts provide basic benchmarks for the measurement of economic success.

But these measures of economic success exclude consideration of the value of nonmarket work. Imagine a corporation or a nonprofit firm that benefits from a large supply of volunteer

labor. If the supply of this volunteer labor changes over time, it is altering the relationship between priced inputs and outputs. This is why many organizations treat volunteer labor as an in-kind contribution and estimate its cost.

The movement of women into paid employment is one of the most significant trends of the twentieth century. When women reallocate their time and energy from home and family care to paid employment, they move from traditionally unmeasured into measured activities. This movement across the accounting boundaries probably overstates the rate of economic growth and misrepresents levels of economic welfare. Many countries, including the United States, are developing additions to their conventional national accounts to address this problem. These are termed “satellite” accounts because they are added onto the existing accounts, which remain intact.

The strategy adopted by most countries for measuring non-market work is to measure the inputs of time, using time-diary surveys of a representative sample of the population. Then the inputs of time are multiplied by the wage that would be paid if someone were hired to do work of comparable quality, or alternatively by the wage the person providing the service would have received in his or her market profession. Results from Australia, Canada, Finland, Norway, Sweden, and the United States show that, even when using the first method, nonmarket activities account for a sizeable proportion (between 40 percent and 60 percent) of the value of all output.

Yet, a number of thorny measurement and conceptual problems remain. I have had the honor of participating on a panel convened by the National Academy of Sciences to consider how best to assign a value to nonmarket work and health. In general, we found it easy to agree on methods of valuing non-market work that have obvious market substitutes, such as cooking and cleaning. More serious problems emerge in consideration of more personal forms of work, such as family care. For instance, time-use diaries capture the *activity* of caring for children better than the more diffuse *responsibilities* for child care, which often constrain parents’ activities.

But these problems (though daunting) are small compared to more conceptual ones. Time devoted to the care of children and other dependents can be treated simply as a form of “consumption” and valued at what it would cost to hire someone else to provide the service. But as the metaphor of “investment in human capital” suggests, we could also value the activity from the other direction—measuring the net present discounted flow of services from the capital asset.

Who produces human capital?

Despite widespread rhetorical use of the term “human capital,” economists continue to interpret it narrowly. It is often assumed that the actual physical production of children, along with their early nurturance, is not an economic activity and only formal education counts as an investment in human capital.

Yet a growing literature documents the significant influence of early childhood experiences on both motivation and the acquisition of cognitive skills later in life.

In addition, economists typically estimate the value of human capital as the net present discounted value of future lifetime earnings—even though the services that children provide cannot be reduced to earnings. After all, by this measure, a daughter is worth less than a son, and neither Jesus nor Van Gogh was worth much, since they enjoyed no commercial success in their lifetimes. The capabilities that children develop have profound implications for our own sense of fulfillment, for our ability to govern ourselves, and for our ability to respond to the unforeseen challenges of the future. In technical terms, they have many “spillover” effects, “externalities” that are not captured by market valuation.

I have long argued that our public policies redistribute resources from parents in general (and mothers in particular) to nonparents. We have “socialized” the economic benefits of childrearing more extensively than we have socialized the costs. Fertility decline has provided important economic benefits. But reductions in the time and energy devoted to the next generation, like competitive pressure (and perhaps as a result of it), can go too far.

Conclusion

Women may have different norms and preferences than men because we have had different responsibilities—differences that may be based to some extent in biology as well as culture. We have attained the power to change both biology and culture, along with the very meaning of femininity. And we have changed that meaning, for the most part, in positive ways. But in doing so, we may have entered a game in which we are offered a choice between adopting traditionally masculine priorities and being denied access to the “top.” If we focus too narrowly on the optimal strategy of individual choice, we will lose our collective opportunity to change the rules of the game.

Rather, we need to develop ways of controlling competitive pressures in the economy lest they weaken families, communities, and the long-run sustainability of our economy and society as a whole. We need to think more carefully about the institutional organization of the paid care sector of the economy, providing more guarantees of high-quality care for children, the sick, and the elderly. And we need to move beyond the margins of conventional economic theory to develop better social accounting systems. If we don’t, we may reach the top of the mountain only to see it crumble beneath us. *

Nancy Folbre is Professor of Economics at the University of Massachusetts–Amherst. She is currently serving as a member of the National Academy of Science Panel on the Valuation of Nonmarket Work and is a past recipient of a five-year MacArthur Foundation Fellowship.



considering
the impact of
women's paid
and unpaid
work

by LISA M. LYNCH

comments on 'spinning the top'





ANCY FOLBRE HAS WRITTEN an interesting and provocative piece challenging the premise that reaching the top in the private sector represents the global maximum in career goals. Examining the biology of gender differences, she looks at whether being successful at work makes women

less desirable mates and whether evolution has resulted in men with a more competitive winner-take-all attitude, while women are more generous and cooperative. She also asks us to reconsider the role of competition within our economic system and argues that this requires an explicit accounting of unpaid work in the home when measuring gross domestic product (GDP) in national income accounts.

Measuring the contribution to GDP of unpaid work would certainly be worthwhile and might even prove useful in efforts to compare cross-national trends in macroeconomic productivity. In a recent paper, MIT economics professor Olivier Blanchard points out that while productivity is higher in the United States when measured by output per worker, it is higher in many European countries when measured by output per hour of work. He argues that Europeans have chosen to work harder but fewer hours. As a result, they consume more leisure. What he does not discuss is whether some of this “leisure” may actually be time spent in household work such as raising children. It would be interesting to examine investments in child rearing in more detail as this might have ramifications for future productivity trends. But it is extremely difficult to come up with good data on this front. Measuring the output produced by services that are bought and sold in the marketplace has been challenging; doing so for services without a market price would be no easy task.

I would like to raise three additional points relevant to the quantity and quality of women’s labor supply.

SKILLS, TRAINING, AND THE TIME SHORTAGE. Economists and policy makers have highlighted the degree to which wage inequality is driven by skill differences. Yet, working women who want to raise their wages by getting additional education and training face the extra burden of a time crunch. While some progress has been made in the division of labor in household tasks, women still bear a disproportionate share of household work (see page 30). This constrains women’s ability to invest in training programs that take place outside work hours and creates a vicious circle with respect to their career advancement prospects. Women are less likely to participate in employer-funded after-hours programs and thus less able to apply for new career opportunities. As a consequence, they may be viewed by senior management as less committed than their male colleagues.

further reading



“Measuring Organizational Capital in the New Economy,” by Sandra E. Black and Lisa M. Lynch, National Bureau of Economic Research Conference on Research in Income and Wealth, April 2002, www.nber.org/~confer/2002/criws02/lynch.pdf.

“Revisiting the Relationships among Gender, Marital Status, and Mental Health,” by Robin Simon, *American Journal of Sociology*, 2002.

“Opportunity Counts: Teams and the Effectiveness of Production Incentives,” by Brent Boning, Casey Ichniowski, and Kathryn Shaw, National Bureau of Economic Research Working Paper 8306, May 2001.

IS THERE A WORK-FAMILY TRADEOFF? Sociologists such as Robin Simon have highlighted the fact that women who work are happier than women who don’t. However, Simon also finds that working men and women react to the pressures and stresses of balancing job and family very differently. Men are socialized to view working harder at their job as consistent with caring for their families and their role as good providers. However, women are more likely to think of work and family as a zero-sum game—time spent at work is time *not* at home caring for their families, leading to increased stress and depression. This may play an important role in the apparent decision to “opt out” of work by some professional women.

THE INCREASING IMPORTANCE OF SOFT SKILLS. In our research, Sandra Black and I observed that as U.S. companies invested in new technology and adopted new forms of organizational design during the 1980s and 1990s, they also placed an increased premium on their employees’ “soft skills.” Other researchers, including Boning and colleagues, have reached similar findings. The ability to collaborate and work in teams, to be problem solvers, to be flexible, and to have good communication skills should favor women, since it plays to their socialization. This research also suggests that today’s workplace is characterized not simply by “winner-take-all” (or reward the “lone rangers”), but by an increasingly important role for cooperation and flexibility.

Implications for policy

So what should we do? With respect to government policy, we should acknowledge that discrimination still exists and that women’s work lives have been considerably improved by their ability to legally challenge discriminatory practices. In addition, it is important to continue to press government to use its economic might as a customer to promote change. Finally, the importance of early investment on children’s subsequent education, social, and employment outcomes is well established. Government policies that ensure that female (and male) workers have access to quality child care regardless of income will help more families to be effective as both parents and workers.

As for employers, they need to maintain their vigilance against discrimination—both the overt and subtle forms, as Barbara Reskin’s paper makes clear. This requires that they explicitly measure and reward antidiscriminatory efforts. In addition, employers should recognize that relying on employees to engage in voluntary training outside normal work hours may well mean disproportionately fewer women advancing within their organizations. They also need to recognize the increasing importance of developing and promoting team players, not just “lone rangers.”

And individuals need to lobby government and employers for workplace policies that support employee development and recognize men’s and women’s responsibilities outside the workplace. We should use our position as shareholders to urge firms to increase the proportion of women in top management and directors’ positions. Finally, we should be active as parents and community members in schools, where much of girls’ and boys’ socialization takes place. ✱

Lisa M. Lynch is the William L. Clayton Professor of International Economic Affairs at the Fletcher School of Law and Diplomacy at Tufts University and a member of the Board of Directors of the Federal Reserve Bank of Boston.