The Diseconomies of Do-It-Yourself

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Do-it-yourself (DIY) is the performance of a household task by oneself instead of hiring an outside party to perform it. Examples include making home repairs, moving, cooking, cleaning, and doing auto repair. Many of those who partake in DIY implicitly reject the idea of comparative advantage, claiming that you can *save* money by avoiding markets. In this short article, I argue that DIY reflects antimarket bias (see Caplan 2007), or the inborn tendency to view transactions as zero or negative sum. Under this intuition, one party gaining is evidence that another party lost. This is why individuals attempting to act prudently and responsibly make decisions that render them systematically worse off. Antimarket bias as conceptualized here is related to the argument by Antoine Beretti, Charles Figuieres, and Gilles Grolleau (2013) that monetary incentives create repugnancy costs. There are also parallels between how economists should view DIY and how they already view sunk costs.

This definition of do-it-yourself is to be distinguished sharply from what has been confusingly called the "do-it-yourself economy" (Matthews 2015), a recent trend that involves individuals pursuing their comparative advantage via self-employment. What I claim has no bearing on the "do-it-yourself economy."

The magnitude of DIY is difficult to measure. It is part of the shadow or underground economy, which is difficult to measure generally. Friedrich Schneider and Dominik Enste caution against defining the underground economy too generally and including DIY in it because DIY reduces the division of labor; they give the example of a doctor painting his own apartment (2013, 150). Andreas Buehn, Alexander Karmann,

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and Friedrich Schneider focus solely on DIY "capital formation" (as opposed to DIY everyday tasks) and find it to be approximately equal to 5 percent of gross domestic product in Germany as of 2005 (2009, 718).[1] The authors emphasize that the incentive for DIY may be reduced via a reduction in regulation and taxes, and on the margin that claim is almost certainly true. However, it is far easier to document the stated motivation for avoiding market exchange than the stated motivation of the top marginal tax rate.

The focus of this paper is the belief that avoiding market exchange "saves money" or is otherwise prudent, although other interpretations are also considered (the "saves money" interpretation is also closest to an economic hypothesis). As of June 2016, a Google search listing pages that contain the phrases "save money" and "diy" yielded more than 8.4 million results. At the time of this search on June 17, 2016, the top-five results were "50 Nifty Tricks for Big DIY Savings" at thisoldhouse.com, "Cool Things to Make at Home That Save Money" at diynatural.com, "65 Tips to Save Money through Self-Reliance" at motherearthnews.com, "When You DIY, How Much Do You Save?" at houselogic.com (the subtitle of this article is "When You Factor in Return on Investment, You'd Be Nuts Not to DIY"), and "Make Your Own Everyday Items and Save Money!" at quickenloans.com. This pattern continues for dozens of pages of results. Motivations besides saving money are possible. Specifically, this paper addresses whether DIY is simply a consumption good. Deeper investigations into motivations other than the "reductionist" classification of a "consumption good" can be found in Williams 2008 as well as in Wolf and McQuitty 2011.[2]

Aside from the idea that avoiding market exchange saves money, the rationale for DIY that is best supported by microeconomics is the existence of transaction costs. Hiring labor to perform simple household chores that are not necessarily one's comparative advantage is very often too costly to be worthwhile. However, individuals may perform for their household some DIY tasks that are elements of their comparative advantage, without selling their labor in markets in exchange for performing those same tasks, due to the presence of transaction costs in markets. One cannot freely choose to work in exchange for wages at any point in time because reality has frictions. DIY as conceptualized somewhat relentlessly in terms of transaction costs, as opposed to what "saves money," is the more cognitively difficult but a better heuristic for determining labor allocation within a household. This reasoning is a special instance of applying work by Ronald Coase (1937).

In the next section, I present the problem in a more formal way with respect specifically to the interpretation of labor supply. Then I frame the issue in terms of antimarket bias and discuss how that bias could relate to repugnancy costs associated with market transactions.

1. Limited data specific to the United States are available. See Joint Center for Housing Studies 2015 for an example of recent trends for one form of DIY.

2. These sources do offer one valid economic reason why DIY is worthwhile: that markets may be too thin to allow for the desired level of customization or personalization. Another more ambiguous reason is the claim that tradespeople are untrustworthy, as reported by survey respondents. These and other sources point to identity as an underlying motivation for DIY (see, for example, Moisio, Arnould, and Gentry 2013).

Hobbies versus Work

> Speaking of opportunity cost, mine is so low that my economic rent from my job is greater than my salary.
>
> —Dwight Lee

When asked, most workers indicate they enjoy their job. According to one survey performed by Gallup, 91 percent of those asked responded that they either like or love their job (Saad 2005). On the margin, of course, there is disutility. However, in the absence of norms to the contrary, it may be accurate to characterize workers as holding a willingness to pay for doing their job. That is to say, if they could pick and choose the best parts of their job, they would pay to do the parts of the job they enjoy. This attitude is illustrated in figure 1, which shows an individual's labor-supply curve cutting through the *x* axis. In this scenario, the worker receives w^* wage while working Q^* hours. For many of those hours, the worker would have paid to do the job.

Consider next what I classify as hobbies, found in figure 2. There are portions of the curve where the consumer-worker is willing to perform the hobby for free and others where the consumer-worker would need to be compensated to perform the hobby. The consumer-worker maximizes utility by satiating on the hobby where the "labor supply" cuts through the *x* axis. This curve is otherwise identical to labor supply. Here, the consumer-worker pursues the hobby for Q^{**} hours.

Figure 1
"Complete" Labor-Supply Curve

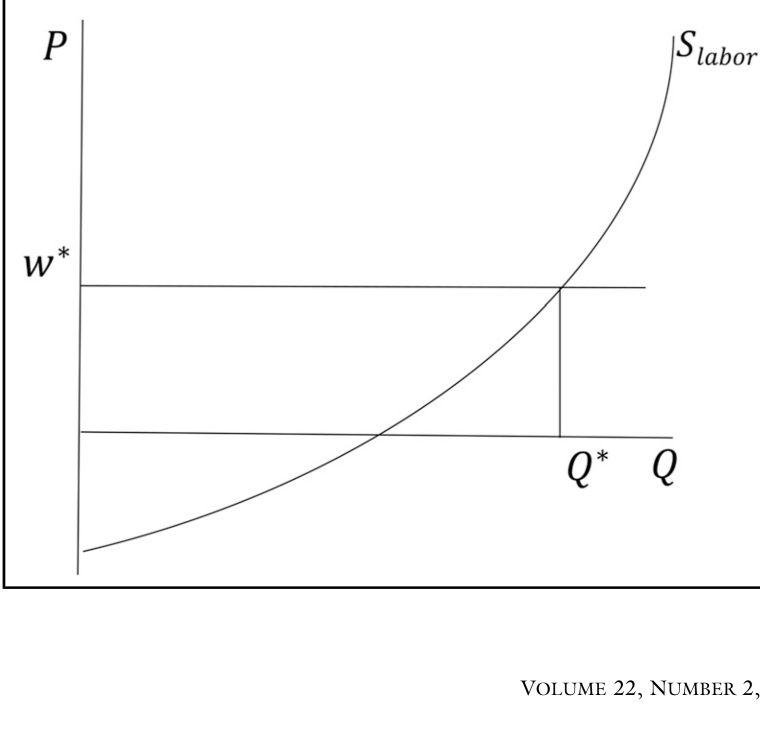
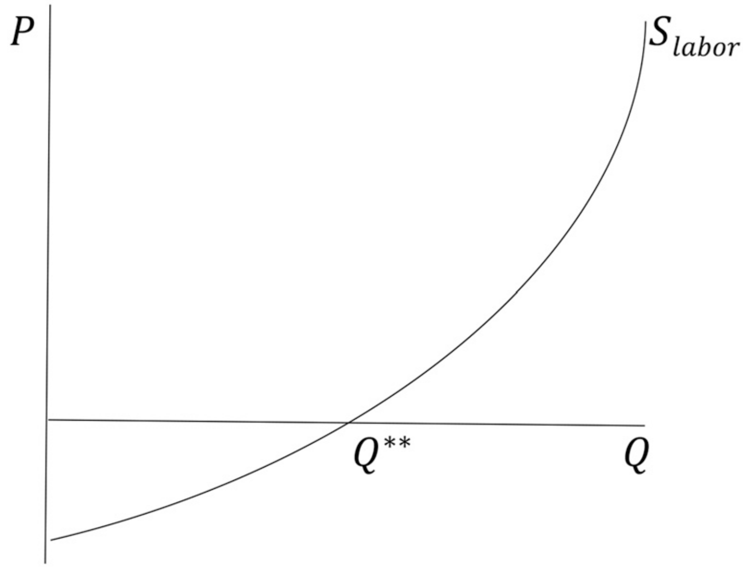


Figure 2
Labor Supply for Hobbies



One can receive pay for many hobbies. One might say that all jobs that the worker receives pleasure from, at least some of the time, are compensated hobbies. The puzzle of DIY is that compensation is available for such work, but the consumer-worker instead produces as much as is consumed by the household as part of household production, but not more. The area of producer surplus above the *x* axis is left unclaimed. Examples of such tasks of household production include landscaping, maintenance, cleaning, cooking, and auto work. For any task of household production where the transaction costs are such that the task can be contracted out, it should be contracted out unless the task is the consumer-worker's comparative advantage. In the case that doing the task is the consumer-worker's comparative advantage, then of course the implication is that it should be the consumer-worker's area of employment—perhaps a second job. Another way of thinking about this issue is that the types of things that "should" prevent the outsourcing of all household production directly parallel the issues preventing firms from outsourcing, as in Coase 1937.

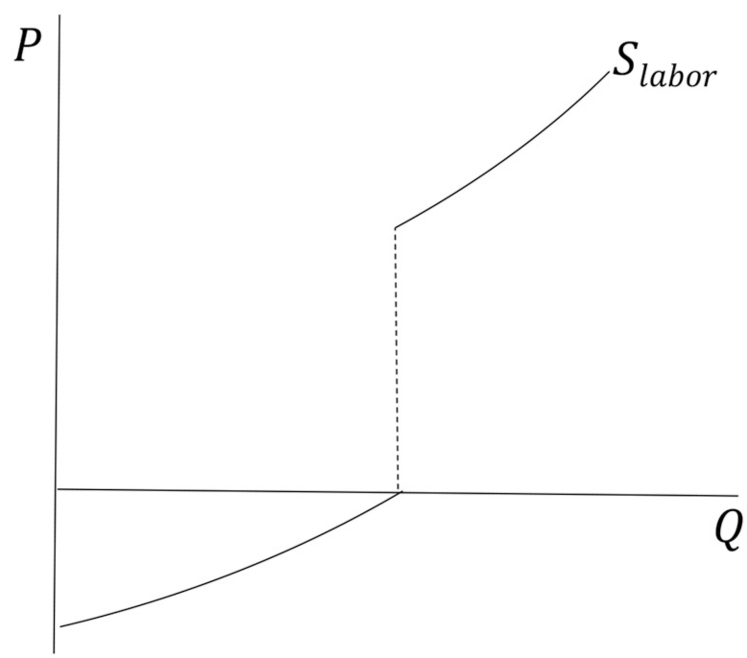
To clarify, if landscaping, cooking, auto work, or other DIY activities are consumption goods, in the absence of transaction costs individuals should perform the work for compensation *and* perform it as part of their own household production. If the activity is a consumption good, there is a willingness to pay to perform it; on labor markets, not only is the "consumption good" provided for free, but it is also attached to an hourly wage rate.

To escape the conclusion that households should outsource, one may posit a warm glow for DIY, but doing so presents difficulties of interpretation. One difficulty is that the warm glow is a weak explanation (i.e., that which can explain anything explains nothing). A second is that this explanation implies that there is a discontinuity between willingness to pay and willingness to accept, with a vertical gap in the labor-supply curve. This gap is presented in figure 3. The gap is empirically identical to the possibility that the consumer-worker requires a premium to participate in market exchange. That this premium is present is viewed here as evidence of antimarket bias, an idea discussed at length in Caplan 2007 and extended to conventional markets in Murphy 2016.

Beyond the issue of the falsifiability of the "warm glow" explanation, the explanation deserves greater attention. Suppose it is simply a basic fact of the human psyche that individuals receive a warm glow from DIY. But it is also a simple basic fact of the human psyche that individuals receive psychic pain from sunk costs (Arkes and Blumer 1985). The position economists take should therefore be consistent: either the warm glow from DIY is something the public should "unlearn," or economic actors are perfectly rational when considering sunk costs in their future decisions. The next section returns to these conceptual difficulties and discusses them in relation to repugnancy costs. However, the argument in this paper does not fully hinge on this point. If both sunk costs and the warm glow from DIY are rational considerations, then the argument of this paper narrowly applies to the DIY performed for purely prudential reasons.

As an aside, some DIY tasks that appear to have the characteristics of the warm-glow explanation may be rationalized, where rationality is broadly defined. Signaling

Figure 3
Labor Supply with Discontinuity



commitment is difficult but important within a household. Although DIY advocates do not necessarily point to this justification for DIY, the desire to perform certain DIY tasks for one's kin might be interpreted as signaling commitment, as played out through emotions (as in Frank 1988). But this justification subsequently raises the question why DIY tasks are the best outlet for this emotional need—compare, for example, expending resources implicitly on DIY versus expending resources on a family vacation. Moreover, individuals react negatively when love is compared to money (as in McGraw et al. 2016, where individuals are shown to exhibit a willingness to pay to avoid considering these trade-offs), and the skew toward DIY in this area may merely reflect the anticipation of that response. If this line of reasoning is correct, the warm glow from DIY as opposed to other means of signaling love and commitment may also be the result of antimarket bias. The considerable difficulty in interpreting the subtle interplay between differing emotions and what that interplay means for utility maximization prevents a neat answer here.

From the standpoint of efficiency, the real issues preventing hobbies from becoming compensated employment are transaction costs, labor-market frictions, and thinness of markets. Much as I would like it, I am unable to snap my fingers, fabricate two meals of my choice in the kitchen of a restaurant, be paid $1.50, and immediately be returned to my home. The zero-transaction-cost world does not yet exist. However, it is easy to overstate the importance of this point. A consumer-worker who spends two hours per night cooking the family dinner would not be sacrificing comparatively much by taking a shift a week as a line cook in a restaurant. The consumer-worker who expends a great amount of money and time on gardening could work Saturday mornings at the nearby nursery. Moreover, labor supply is more elastic in the long run. Although it may be difficult to pick up a side job in exchange for a modest increase in income, it becomes significantly more tenable if the consumer-worker is simply alert and opportunistic in the long run.

In some ways, this contention turns Jason Brennan and Peter Jaworski's (2015) work on its head. Brennan and Jaworski argue that if it is permissible to do something for free, it should be permissible to do something in exchange for money. Part of my argument here is that if you are willing to do something for free, you should be willing to do it for money. Both my argument and Brennan and Jaworski's contention find fault in the resistance to engage in market transactions—in other words, we find fault in antimarket bias.

There is reason to expect such jobs to become a more significant part of the economy over time as part of the "Third Entrepreneurial Revolution," a term coined by Michael Munger (2015). According to Munger, economies will see significant gains in firms such as Uber and Airbnb, which are rapidly reducing transaction costs—hence, "the gig economy" (Nunberg 2016). Uber, as of December 2015, already had a greater valuation than General Motors (Chen 2015). To the extent that DIY is the result of transaction costs or other hard economic factors and not merely of irrational or quasi-irrational discontinuities in the labor-supply curve, DIY activities will likely diminish if current trends continue.

Alternatively, it may simply be the case that DIY generally involves many individuals performing work that is not their comparative advantage, with perceptions of enjoying the task merely a post hoc justification of the choice to do the task. The common refrain of DIY, that it "saves money," simply ignores the opportunity cost of the labor; almost by definition, the consumer-worker could work another hour at what is his or her comparative advantage, pay another person to perform the other task, and come out ahead. That consumer-workers may fail to do this at times is where the optimality conditions posited by Gary Becker (1965) fail to hold. Although "working an additional hour" is not always immediately possible, the same caveat given earlier applies: in the long run, it probably is.

To recapitulate, there are two sides to DIY that seem to fail to appreciate gains from trade, but they fail to do so for two different reasons. If the task in question really is the consumer-worker's comparative advantage, but the consumer-worker does not receive market wages in exchange for performing the task, the question must be raised why the consumer-worker has not entered the labor market for performing that task. Or the consumer-worker may be performing a task not his or her comparative advantage due to the myopic belief that doing so "saves money." In either case, the consumer-worker is not maximizing across all possible margins.

Antimarket Bias

Caplan (2007) has outlined four biases in politics that lead voters to choose systematically wrong policies: antiforeign bias, antimarket bias, pessimistic bias, and make-work bias. This analysis can be extended out of politics and into markets, with examples in private decision making with regard to fair-trade coffee, local currencies, the locavore movement, and vaccinations for children (Murphy 2016). Antimarket bias is of particular relevance here because the discontinuity in the labor-supply curve is empirically identical to a bias against engaging in market exchange.

Paul Rubin (2003) and Toban Wiebe (2010) explain how in the evolutionary environment skepticism of something like market exchange was rational. In that world, almost all human interaction outside the tribe was zero or negative sum. If one party had more, that was prima facie evidence that the other party had less. This zero-sum view underlies the relentless suspicion most individuals have regarding many market transactions—for example, regarding middlemen (see Munger 2009). If an outsider has economic rent, that is economic rent at one's expense. There was never any real point in time that human psychology would have the evolutionary incentive to adjust to the fact that under modern institutional arrangements positive-sum relationships with outsiders are the norm, not the exception.

Other examples related to this zero-sum view include intolerance for price gouging (Munger 2007). When allowed to express their opinions, most consumers seem to prefer that producers be unable to charge high prices in periods of slack supply or high demand, whatever the deleterious consequences of this restriction, including that the good is not provided at all. Many people seem to be upset with outsiders both when the United States invests in China and when China invests in the United States (Murphy 2013). If we recognize these beliefs to be irrational when they arise, we should also recognize that DIY—often, though not always—reflects this same mistrust of markets. Despite what we know about comparative advantage, the perception is that taking advantage of comparative advantage is consistently “wasteful” because another party got ahold of the money.

Other social scientists have observed the unease with which people engage in market exchange and have labeled that sense of unease a “repugnancy cost” in the sense explained by Alvin Roth (2007). Some literature about repugnancy costs can offer harder empirical support for the evolutionary narrative described, although the literature on repugnancy costs is not conventionally thought of in this manner. Motivation crowding theory (see Frey and Jegen 2001) posits that financial incentives at times can undermine other, often altruistic incentives. Beretti, Figuieres, and Grolleau (2013) conjecture that repugnancy costs underlie motivation crowding theory at least in part—namely, that repugnancy costs are present whenever market exchange occurs. They then find this conjecture supported experimentally. Other studies have also demonstrated that repugnance (or taboo) disrupts market exchange from taking place where economists may expect it to.[3] Repugnancy costs when market exchange occurs is also observationally equivalent to the discontinuity in the labor-supply curve found in figure 3. Whether this psychic cost is irrational or a cost is likely a matter of classification.

A purely subjectivist take on repugnancy toward markets would evaluate DIY as rational provided the constraint of repugnancy exists. However, under this interpretation, antimarket bias is not a bias but a reflection of costs to the human psyche, whether that bias is expressed privately or publicly. This interpretation undermines Caplan’s (2007) argument. That is to say, voters do not vote for markets because they find markets repugnant, not because of irrationality. If antimarket bias *is* a bias, repugnancy costs are evaluated “not to count,” and “subjectivism” has an asterisk next to it (perhaps similar to how most microeconomic textbooks discuss sunk costs). However, consider another one of the biases Caplan names, antiforeign bias. Whether the bias against foreigners is a bias or a preference reflecting something akin to repugnancy costs should inform whether antimarket bias is a bias. In sum, there is experimental support for repugnancy costs, and their interpretation with respect to antimarket bias actually has wide ramifications for Caplan’s (2007) work and for public-choice theory, not just for the narrow question of the efficiency of household production.

Conclusion

Failing to heed comparative advantage should not be expected to yield special gains in one’s personal finances, though many still pursue DIY out of the belief that it will “save money.” Despite being in the midst of global capitalism and wealthier because of it, individuals in today’s world possess a strong, negative disposition toward engaging in

3. See, for example, Ginges et al. 2007; Ambuehl, Niederle, and Roth 2015; and McGraw et al. 2016.

market exchange. There are two competing dimensions to this disposition. One is that individuals perform tasks that are not actually their comparative advantage, and so in a frictionless labor market they would come out ahead were they to work an extra hour and pay another person to perform the task that is not their comparative advantage. A second is that if these DIY tasks are the individual's comparative advantage, then the individual should with a far higher frequency perform them as a primary or secondary job. That consumer-workers make these errors is a reflection of antimarket bias. More charitably, these errors may be squared with the rationality postulate by reframing them as repugnance costs. However, this squaring creates certain difficulties in interpreting antimarket bias generally. Instead of reasoning in terms of "saving money" by avoiding market exchange, households would be better to think in terms of when to internalize production due to the existence of transaction costs.

Nonetheless, economists continue to offer prescriptive advice about sunk costs, for instance, despite the public's displeasure at being told sunk costs are sunk. Another analogous example is how certain economists now prescriptively argue against the "buy local" movement (Lusk and Norwood 2011; Desrochers and Shimzu 2012). If challenging free choices such as considering sunk costs or buying local are within the purview of economics, it may make sense to recommend that on the margin most consumer-workers would be better off if they worked a little later each day and used the extra income earned to pay others to perform household tasks they are not adept at.

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