Kitchen Conversations: How Households Make Economic Choices

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Economists have studied decision-making for centuries, but how do households, as opposed to individuals, make decisions? The future of personal finance may rest on the answers.

BY ANDREW HERTZBERG

How do households decide how much to spend, what to buy, and how much to work at any moment in time? Anyone who has taken Microeconomics 101 knows that economists have been studying these questions for centuries. Your typical economics textbook will carefully describe how decisions are determined by household preferences, the household budget, and the prices of goods and services (or the wages paid to labor). This analysis forms the basis for understanding many of the key questions in economics. How does demand change in response to a price increase? How does a change in income affect consumption? How does a change in wages affect how much people want to work? How does a tax on goods or income affect the economy? Do people save enough for retirement?

However, this analysis sets aside how household decisions are actually made. Households often comprise more than one person. As a result, household decisions are often made by a group of people instead of by a single person with a clear and unique objective. To understand decision-making in a multi-person household, we need to understand whether choices are made cooperatively or noncooperatively and whether households can commit to their agreed-upon choices. We also need to understand each household member's influence, which can change over time. For example, when a head of household loses their job, the household loses income *and* the balance of control within the household shifts. Treating the household as a single decision maker leaves out these other effects. We need to understand these other effects if we are to identify which government policies and financial products will produce the best outcomes for households.

In this article I review the ideas and evidence that economists have recently used to study how decisions are made in multi-person households.[1] I also discuss how interactions among household members affects our understanding of future-facing decisions, such as how much to save. I conclude by briefly describing how the structure of some financial products (e.g., joint versus separate control of assets) could alter household choices.

Why Study Households

Studying how households, as opposed to individuals, make decisions is only important if the members of a household have different preferences and objectives. A simple example: Suppose that a household comprises two people, A and B, who between them have $10 to spend at a grocery store. If A and B both like to consume only apples (and derive no utility from anything else), then they will buy $10 worth of apples, just as if they were a single individual. So studying the combined household is only interesting if A and B differ in the utility they derive from some goods or services. For example, if A likes only apples and B likes only bananas, then what they buy depends in part on how much control each has.

For household decision-making to matter, household members must also be at least somewhat selfish. If person A liked to consume only apples and B liked to consume only bananas, but each person cared equally about their own happiness and that of the other household member, they would agree to spend $5 on apples and $5 on bananas. No matter who was given control over the household consumption decision or whether members make decisions together or on their own, the same choice would be made. As a result, we could treat the household as a single individual. Put differently, the members of the household would have different individual preferences but would have the same objective. If, however, members were selfish, so that they each placed more weight on their own utility than their partner's and had different preferences, then the consumption choice of the household depends on how this disagreement is resolved.

So it is important to review the evidence on whether household members have different preferences and are selfish. This is easier said than done. When studying households, a researcher will typically have data on available resources (wealth, income) and the choices the household makes (consumption, savings). From observing these items alone, it is not obvious whether or not the members of the household disagreed over their ideal choices. Detecting disagreement requires more work. Thankfully,

some economists have done research that detects this kind of disagreement.

A Change in the UK Child Benefit

In 1977, the UK changed a portion of the child allowance from an income tax deduction to an equivalent child benefit paid weekly to the mother in the family.[2] Crucially, the only thing the policy changed was *who* received the money, not the amount the household received. Therefore, if household members agreed on how resources should be spent, nothing would change.

That is not what researchers found. Using family expenditure survey data, Lundberg, Pollack, and Wales (1997) show that expenditures on women's and children's clothing increased relative to men's clothing after the policy change. When the mother was given increased control over household resources, consumption choices were apparently redirected toward her preferences. This supports two fundamental concepts that any realistic account of household decision-making must take into account. First, household members often have different preferences. Second, although household members may care for each other, this altruism is imperfect—they care more for themselves than for other members of the household. If both partners cared about each other equally, they would agree on the amount of household wealth to spend on clothing for each member, and changing the balance of control wouldn't change anything. But it did.[3]

How Households Decide

So the research suggests that multiperson households often have differing preferences and household members are often at least somewhat selfish, but how do household members resolve their disagreements? Most economists who have addressed this question start with the premise, named for Italian economist Vilfredo Pareto (1848-1923), that household decision-making is Pareto efficient.[4]

Assuming that household decisions are Pareto efficient simply rules out the possibility that the household would choose one outcome when another outcome would make every member of the household better off. That seems entirely reasonable. Returning to our hypothetical example, when A and B visit the store and decide how to spend their combined wealth of $10, Pareto efficiency rules out two things. First, the household doesn't buy anything else (e.g., grapes). Second, the household doesn't buy so many apples (or bananas) that both members would be happier if the mix was shifted toward more bananas (or apples). This idea, however, faces two challenges.
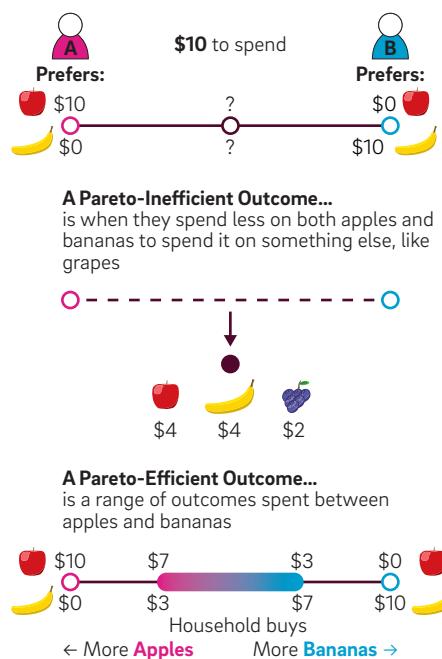
First, Pareto efficiency doesn't make a specific prediction for what the household members will choose. When studying one person, economists predict exactly what that person will choose. But predictions are vaguer even when economists know all about the preferences and budget of a two-person household. In our example, there are many combinations of apples and bananas that will be Pareto efficient. The best we can say is something like: The household will spend between $3 and $7 on apples, with the balance going to bananas (Figure 1).

Pareto-Efficient Grocery Shopping
A and B go shopping. A wants to spend all $10 on apples. B wants to spend it on bananas. What is the most efficient outcome?

A Pareto-Inefficient Outcome…
is when they spend less on both apples and bananas to spend it on something else, like grapes

$4 $4 $2

A Pareto-Efficient Outcome…
is a range of outcomes spent between apples and bananas

| $10 | $7 | $3 | $0 |
| $0 | $3 | $7 | $10 |

Household buys
← More **Apples**   More **Bananas** →

This ambiguity makes it very difficult to test the theory with data, since the data is consistent with so many choices, and it has the potential to undo many basic features of microeconomics. A basic claim in microeconomics is that if the price of bananas goes up, a household will buy fewer bananas. However, if we rely only on Pareto efficiency, this is no longer true in a multiperson household: A wide range of choices are Pareto efficient no matter the price of bananas. We can't even be sure that the household wouldn't buy more bananas when they get more expensive.

The second challenge is that households also purchase shared goods, such as housing and child care, that provide a direct benefit to multiple members. To see why this complicates the assumption that households make Pareto-efficient decisions, suppose that it is Pareto optimal for the household to spend $3 on apples, $3 on bananas, and the remaining $4 on child care. In many cases each household member would actually prefer to alter this decision in favor of themselves. For example, left to make the choice on their own, household member A might spend $4 on apples, preferring that their partner bear most of the cost of child care. In the same way, B might spend $4 on bananas. In combination, the household would spend only $2 on child care, half the amount that A and B collectively agree is ideal. Put differently, the household is vulnerable to a classic "tragedy of the commons" problem where public goods within the household are underprovided (Figure 2). Although household members may value allocating money to child care, they'd prefer not to sacrifice their own consumption to do so. So unless the household has a way of preventing each member from making unilateral decisions (e.g., spending schoolbook money at a bar on the way home from work), household decisions might end up being Pareto inefficient. What, if anything, keeps household decision-making Pareto efficient? And can economists make precise predictions about household choices?

Most economists who have studied household decision-making answer these questions by making an additional assumption: Household members bargain with each other in order to make decisions. This means that a decision is made only

if everyone in the household agrees to it. Despite having different preferences and being selfish, members are willing to compromise in order to avoid the alternative. Positing that households make decisions by bargaining addresses each challenge in the following way.

Challenge 1: Many Choices Are Compatible with Pareto Efficiency

If we assume that households bargain, then each member's relative bargaining power determines Pareto-efficient allocation. If A and B have equal bargaining power, then the household will spend as much money on apples as it does on bananas—a much more precise prediction. This also restores many of the ideas that everyone learned in Microeconomics 101.

Bargaining not only gets us back to a theory of household choice that makes a specific prediction but also makes a new testable prediction: Changes in the relative power of each member will alter the decisions the household makes. For example, if B's bargaining power is increased, the household will buy more bananas, even if nothing else (preferences, prices, budget) changes. Most of the empirical work that has tested this approach to household decision-making is devoted to showing that changes in relative bargaining power, holding all else equal, alter household choices.

Challenge 2: Households May Underprovide for Shared Goods

Bargaining also helps us overcome the tragedy of the commons problem, because it rules out the possibility that any household member can unilaterally deviate from an agreed-upon plan. Nobody can spend money earmarked for schools at a bar on the way home from work, unless everyone has given their agreement.

Is this a realistic description of the world? Economists who have advanced the idea that households bargain to make decisions support this idea by arguing that the household is a long-lived relationship where deviations from agreed-upon plans can be punished. Punishment might take the form of uncooperative behavior or household dissolution. If we return to the example of A and B above, a Pareto allocation can be obtained by first agreeing and committing to spend $4 on child care (perhaps by prepaying school fees) and dividing the remaining household budget between A and B to spend on themselves. Under this framing, both members have an agreed-upon personal budget they can spend any way they like. To achieve Pareto efficiency, consumption decisions regarding shared goods (child care, housing) are made together and cannot be undone without the approval of both household members.

Where Does Bargaining Power Come From?

Most researchers agree that bargaining power comes from each member's outside option, which refers to how well off the household member would be if bargaining broke down and the members did what they wanted. The better a member's outside option, the more bargaining power they will have, because their threat to act independently is more credible. But what does it mean for household members to act independently? Two answers have been proposed to this question: household dissolution and uncooperative behavior.

One possibility is that household members bargain using the threat of dissolving the household as an outside option. Anything that makes it easier or harder to divorce, or that alters the conditions a member will enjoy outside of the household, will affect the power of this threat. According to this view, factors external to the household determine the relative bargaining power within a household and hence indirectly influence decisions. For example, an increase in the general level of women's wages (relative to men) has the potential to make divorce more attractive to women and thereby increase their power within the marriage.

Some economists have advanced another possibility: The threat of uncooperative behavior may determine bargaining power. Such behavior, which Lundberg and Pollak (1993) referred to as "separate spheres," might amount to punishing each other by spending less on shared consumption (child care, housing, etc.). It can also refer to household members refusing to share their income with each other, working less and thereby contributing less income for household expenditures, spending less time with each other, or treating each other less kindly. Under this view, factors internal to the household determine bargaining power. For example, imagine a household member who isn't satisfied with their household's choices. If they change jobs, this might alter their ability to "threaten" to spend more time working late at work, thus raising their bargaining power. Or more perversely, if one member begins to feel less affection for the other, this increases their ability to credibly threaten
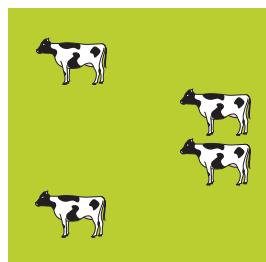
What Is the Tragedy of the Commons?

In colonial times, Boston Common was a pasture for cows, free for anyone to use, but it couldn't survive the subsequent overgrazing. Economists later used this example to explain why a resource provided to everyone for free may end up being underprovided.
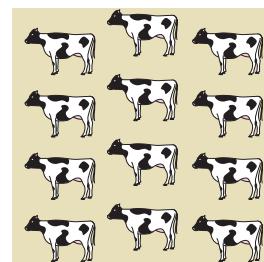
A healthy balance of common to cow

One person adds a cow, because the benefit to themself outweights their concern for the Common

By the same logic, others add more cows, leading to resource depletion

Boston Common

to treat the other poorly and hence raises their bargaining power.

Although this idea has intuitive appeal, it is usually more complicated to measure these internal threats. As a result, the evidence suggesting that this is an important source of bargaining power in households is scarce and more indirect.[5] One example supporting this idea is the 1970s change in the UK Child Benefit. Its effect is most consistent with the notion that internal threats alter bargaining power. Note that the way the benefit was paid would not have affected either partner in the event of divorce. Instead, it would have improved the mother's bargaining position by empowering her to withhold funds from her partner in the event that bargaining broke down.

Several studies, by contrast, have shown that factors external to the household appear to influence bargaining power. For example, Knowles (2013) applies this idea to understanding the effect of the increase in hourly wages paid to women relative to men that has occurred in the U.S. since the 1970s. Most economic theory predicts that women would respond by working more hours per week relative to men. While this has occurred, the change has been far smaller than economists expected. Knowles argues that this logic leaves out the fact that the change in wages has given women more bargaining power at home. With their increased power, women have bargained for less work and more leisure.[6]

Although most work on household decision-making has adopted the Pareto-efficient bargaining framework, economists have considered other accounts. Household members may make decisions independently, in accordance with their own objectives, giving consideration to what they expect other household members to do. This is usually referred to as noncooperative decision-making–because decisions are made unilaterally (Figure 3). This generally leads to inefficient household decision-making in the sense that shared consumption (such as investments in child health care) is underprovided as per the tragedy of the commons.

Household Savings Decisions

Most economic research into household

Prisoners Dilemma: Noncooperative Decision-Making

Police arrest two suspected bank robbers, but lack the evidence for a full conviction.

The suspects are separated for interrogation. Will they snitch on each other (noncooperative decision-making) or keep silent (cooperative decision making)?

How Many Years Will They Each Serve?

		Suspect **B**	
		Silence	Snitch
Suspect **A**	Silence	1 1	3 0
	Snitch	0 3	2 2

Collectively, both suspects are better off if they remain silent. But, no matter what the other does, each suspect has an individual incentive to snitch.

decision-making has focused on a fixed moment in time. However, most household choices are concerned with planning for the future through saving and borrowing. One approach is to treat the choice to save or borrow like any other shared good and assume that Pareto-efficient bargaining applies. Just as A and B agree on an amount to spend on child care, they also mutually decide how much to save for the future (or how much to borrow). Crucially, this requires that neither member can unilaterally alter that choice.

In practice, assuming that household consumption and savings decisions are made by bargaining means that both members agree on a personal discretionary spending budget for each member. No one in the household is able to exceed that budget at any moment in time (for example, by buying a new phone or pair of shoes) without first getting spousal approval. This may stretch the bounds of plausibility for how many households actually decide to spend, save, and borrow. This distinction isn't a mere theoretical curiosity. Hertzberg (forthcoming) demonstrates that if people are able to spend or borrow without the approval of their spouse, and if their behavior is to some extent noncooperative, then savings will be subject to a classic tragedy of the commons problem and the household will systematically save too little as a result.

Most of the evidence on how households interact to make financial decisions adopts the cooperative bargaining framework described above. These papers ask: Do changes in proxies for relative bargaining power alter savings or investment decisions? There is considerable evidence that the answer is yes.

For example, consumption by two-person, male-female U.S. households drops 9 percent when men retire. We don't see the same phenomenon in comparable scenarios. There is no drop in consumption when single men or single women retire. This suggests that the drop in consumption can't simply reflect a reduced demand or ability to consume upon retirement by men or women. What's more, there is no drop in consumption when women from two-person households retire, even when the woman is the higher earner. How can bargaining explain this? Lundberg et al. (2003) argue that women, who typically live longer than men, prefer to save more than their partners. At retirement the man's bargaining power drops and so the savings rate readjusts to give more weight to the woman's more patient preferences. Consistent with this hypothesis, the consumption drop is larger where the woman is younger and hence expects to live longer than her spouse.[7]

Although this evidence is consistent with Pareto-efficient bargaining, it might also be explained by noncooperative decision-making. For example, suppose that household members unilaterally decide how much to save and how to invest those savings. It could be that when men earn less, they automatically lose some influence over the household's savings and portfolio choices. So while these studies show that intrahousehold interactions matter for financial decision-making, they don't provide a definitive answer as to how they matter. There is no definitive proxy for bargaining power that is not also compatible with noncooperative behavior. Addressing this issue is far more challenging, and, to date, the evidence is inconclusive.

The best evidence that how households interact matters for financial decision-making comes from Aura (2005), who looked at the effect of the Retirement Equity Act of 1984, which required that decisions regarding employer-sponsored survivor annuities and life insurance be made with the consent of both spouses. Prior to the act the employed person could unilaterally opt out of an employer-sponsored survivor annuity (an obvious benefit to the employee's spouse). The same act required that early withdrawals and loans taken against tax-protected retirement savings must have approval of both spouses. These requirements changed the choices made. For example, the selection of survivor annuities increased 7 percentage points as a result of the law. Life insurance holdings also increased. This provides particularly clear evidence that the way multiperson households make decisions matters for financial choices: Mandating joint approval changes behavior.

One interpretation of this evidence is that many financial choices are normally made unilaterally, and hence forcing mutual approval changes their outcome. If so, bargaining is not the right way to think about household financial decision-making, because it presumes all decisions are made jointly with mutual agreement, regardless of whether the government mandates it.

Alternatively, it is possible to reconcile this evidence using the logic of separate spheres. By this account it is possible that forcing the employed person to obtain the permission of their spouse reduced their bargaining power by limiting what they could threaten with uncooperative behavior. This helps illustrate why, even with such a unique policy experiment, it is so difficult to provide definitive evidence of how households make financial choices.

Pareto-Efficient Financial Choices

Just as researchers so far have struggled to provide direct evidence of how financial decisions are made, they have also wrestled with a related and equally difficult question: Are the financial decisions that households make Pareto efficient? If evidence supports the idea that interactions among household members may produce suboptimal choices, such as too little savings or too much risk taking, that could present an opportunity for government policies or the creation of financial products to counteract these problems.

The best evidence supporting this idea comes from economists studying developing countries. Udry (1996) uses data from Burkina Faso to look at the way that labor is allocated across plots of land controlled by different household members. The allocation of labor to land should be thought of as the primary investment decision these households make each year (akin to an annual readjustment of a financial portfolio in the U.S.). Udry finds that the allocation is inefficient, because total household income could increase if the household allocated more labor to farming the plots controlled by women. Put differently, these families are systematically worse off because of the way they make decisions. This further calls into question the premise that optimality and efficiency, as assumed by bargaining, are adequate descriptions of the world.

In a similar vein, Duflo and Udry (2004) take advantage of the fact that men and women in Côte d'Ivoire typically farm different crops on different plots of land. In an efficient household, household members would insure each other against shocks to their individual plots: If one year's rain pattern happened to favor the women's crops, the women would share some of their profits with the men, and vice versa, to lower the total risk each faced. Contrary to this hypothesis, they find that shocks to the plots farmed by women due to variation in rainfall affect spending on education and food but have no impact on private goods typically consumed by men (alcohol and tobacco). In short, there is no evidence that the men insure the women against rainfall shocks, even though it is easy to observe that the women's plots are less productive because of rainfall (over which they have no control) rather than inefficient or negligent farming practices (in which case the men might blame them for their low productivity and thus see no reason to "insure" them for their losses). Robinson (2012) finds similar evidence using experimental data on households in Kenya.

There's another explanation for why households might not be Pareto efficient: Its members might not have the same information at each moment in time. If one partner knows they have received a pay increase but chooses to hide this from their partner, the two cannot bargain over how to spend the additional money. Ashraf (2009) shows that how information is shared within the household affects financial decisions. In her experiment, which she conducted in the Philippines, when men receive money without their wife's knowledge, they typically deposit it into their own personal account and spend it on personal consumption. But when the wife learns that her husband is about to receive money and she is able to communicate with her husband about what he will do with it, the money is typically deposited into the wife's account and saved.

It is not clear whether the evidence from developing countries applies to households in developed countries like the U.S. Many aspects of economic life and household structure, and the traditions surrounding marriage, are different in these countries. This remains an important open question that is waiting for more careful research.

Conclusion

Although traditional economic theory has mostly glossed over the inner workings of household decision-making, a flourishing field of new research is beginning to show that how household members interact matters for many economic choices. Exactly how decisions are made within a household remains an open question. There is considerable evidence consistent with the Pareto-efficient bargaining paradigm when looking at choices made at a particular moment in time. Put differently, bargaining appears to work well to explain how a household efficiently allocates $10 between apples and bananas at a grocery store.

But the evidence also suggests that bargaining may not be an adequate characterization for how households decide to save, invest, or borrow. There is currently no satisfying answer as to why a savings choice isn't made in the same way as the choice of apples and bananas. One possibility is that bargaining about saving and borrowing requires ongoing commitment. If a household agrees to save $100 each month, each member potentially

has access to $100 at every moment in time and must refrain from drawing on those funds in order to buy something for themselves. Commitment to an agreed savings goal is complicated by the need for flexibility. Perhaps the money is needed right away for a new and important expenditure. Perhaps it is hard for members to know how crucial a surprise expenditure is for their partner.

It is possible that households arrange their finances in ways designed to limit these problems. One example in line with this theory is provided by a creative series of experiments run by Schaner (2015) in rural Kenya. She studies the choice of households to save either in a joint account that both members can access or in individual accounts. She shows that couples who differ in their patience are far more likely to opt for separate savings accounts. The implication is that households actively choose financial products based on their ability to make Pareto-efficient decisions through bargaining. This idea might help explain many other choices regarding the financial products households use. For example, the choice to have a joint credit card versus two separate individual cards, or the decision to save when the home is owned and controlled by both household members. It is also possible that some financial products have a deleterious effect on household outcomes because they aggravate problems with the way households make decisions. For example, the availability of high-interest payday loans may allow one member of a household to access future income before other members can weigh in on how that money should be spent. More innovative research is needed to assess these conjectures. ▣

Notes

1 Outside of economics a wide range of researchers have also considered these questions. For example, Bennett (2013) provides a survey of the work by sociologists on household economic decision-making. Research in these fields generally considers a richer set of forces (e.g., gender politics, psychological interaction, social norms) that might affect household choices. The drawback is that these theories are difficult to test and, as a result, the evidence presented to support these theories has many other plausible interpretations.

2 See Lundberg, Pollak, and Wales (1997).

3 Several studies have confirmed this basic finding in different settings. See, for example, Phipps and Burton (1998) and Ashraf (2009).

4 See for example Chiappori (1988, 1992) and Browning and Chiappori (1998).

5 See also Chiappori, Fortin, and Lacroix (2002).

6 For more examples showing that external factors appear to influence bargaining power within the household, see Browning et al. (1994), Duflo (2000), and Thomas (1994).

7 See also Addoum (2017) and Olafsson and Thornquist (2018).

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