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Strategic Interaction in Daughter-Son Care for an Elderly Parent

We represent the daughter-son interaction in providing care for an elderly parent as: (1) a coordination game or (2) a fair division problem. These formulations allow exploration of the possibilities for reshaping the social convention of assigning the primary responsibility for care to the daughter and provide ways to make economics relevant to the concerns of female students. The exploration introduces students to strategic moves (threats), issues of credibility, the value of cultivating a reputation before the challenge of providing care arises, and the relative merits of alternative fair division methods. The set-up costs for game theory teachers are modest.

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> "For most of the nation's history, caring for the elderly was a family affair carried out largely by women in the home. As the twenty-first century unfolds, however, elder care in the United States is an increasingly complex enterprise …" Bookman and Kimbrel (2011)

1. Introduction

The American Economic Association (AEA) website contains a section on "Best Practices for Economists," which includes "Working with Students." The first point in this subsection says, "When faculty proactively offer information about the breadth of the field of economics, more students from underrepresented groups study economics." It goes on to claim that "… standard economics curricula often fall short of engaging diverse students."[1] In the last honors seminar that I taught on "Game Theory and the Social Sciences," females made up two-thirds of the class—a far higher percentage than our economics courses—and an application to strategic interaction in daughter-son care for elderly parents energized them.[2]

In societies with declining fertility rates, increasing life expectancy, and rapidly aging populations, caring for the elderly becomes increasingly challenging (Folbre, 2012). The U.S. Bureau of the Census (Vespa et al., 2018) reports that, "The year 2030 marks a demographic turning point for the United States. Beginning that year, all baby boomers will be older than 65. This will expand the size of the older population, so that one in every five Americans is projected to be retirement age … Later that decade, by 2034, we project that older adults will outnumber children for the first time in U.S. history." The projections also say that by 2060, 23 percent of the U.S. population will be age 65 or older (Vespa et al., 2018). Europe will reach this point sooner (Grundy and Murphy, 2017); Japan is already there (Chung and Mansur, 2018).

The racial and ethnic composition of the elderly population (those aged 65 and older) in the United States is also changing. From 2022 to 2060, the non-Hispanic White percentage will fall from 74.87 to 55.6, while the Black/African American percentage will rise from 9.82 to 13.65 and the Hispanic percentage will increase from 9.14 to 20.41 (U.S. Bureau of the Census, 2003). Furthermore, severe functional limitations are more prevalent among minority elders than White elders, yet the rate of institutionalization is lower for minority elders (Dilworth-Anderson et al., 2002). Thus, caring for elders will be an especially heavy burden for minority families.

In a Princeton dissertation published in the American Sociological Review, Grigoryeva (2017) uses the Health and Retirement Study, a nationally representative panel survey of the noninstitutionalized U.S. population age 50 and over, to show that, "daughters provide more care than do sons to their elderly parents [and] … sons provide relatively less care if they have sisters, whereas daughters provide relatively more care if they have brothers." The same patterns emerge in European countries (Luppi and Nazio, 2019; Ophir and Polos, 2022; and Batur et al., 2024). For example, Luppi and Nazio (2019) report, "… daughters … were on average around twice as likely as sons to provide care to their parents on a weekly basis," and "the presence of

[1] See https://www.aeaweb.org/resources/best-practices. For research on this claim, see Bayer et al. (2020) and Avilova and Golden (2024).

[2] The students in the class were from a variety of majors (1 in economics). Game theory applications related to the majors were collected by the instructor and selected by the students. The application that contained the seed for this paper, the King Lear problem, was taken from Dixit and Nalebuff (2008) and selected by a theater arts major. In its original formulation, the application explored how parents could strategically design an inheritance that would motivate their children to visit or call them regularly in old age. Each student made a presentation to the class about his or her topic before writing a term paper on it. After each presentation, an opportunity was given for unstructured discussion. The topic of parental care by siblings sparked unusual discussion, involving only female students.

brothers leaves the probability to provide care the same as that experienced by a single child."

It is important at the outset to recognize that other factors, neglected in the games presented here, play an important role in explaining this imbalance in care between male and female siblings. It is well known that women tend to have longer life expectancies than men, so an elderly parent without a spouse is more likely to be a female.[3] Furthermore, the preferences of the elderly parent could affect who provides care. For example, a mother without a spouse would probably prefer to receive care involving intimate, personal contact from a daughter rather than a son. Therefore, demographic realities and cultural norms likely contribute to gender imbalance in care for elderly parents. Still, in their careful study of factors determining who provides this care using the National Long-Term Care Survey, drawn from Medicare enrollment files, Lee et al. (1993) conclude, "With few exceptions, daughters are more likely than sons to provide care to both parents, and parents of either gender are more likely to be cared for by daughters than sons. However, the predominance of daughters as caregivers is much greater when the parent receiving care is the mother. … The gender of the elder receiving care is one important factor, although hardly the only factor, that determines whether a son or daughter provides care."

The role of women in society and the labor market has undergone a dramatic transformation over the last century—a story well told by Golden (2021). In particular, the experience of providing more care to children than men involves significant career sacrifices and continues to entail steep trade-offs between career and family. Yet, Bianchi et al. (2012) observe that, "Care for adults with disabilities or chronic illness is often viewed as more onerous than care of children. The need for this type of care often represents an exogenous shock, one that is unexpected, difficult to anticipate, and perhaps related to sudden illness or recognition of a trajectory of increased dependency, such as when a spouse or parent is diagnosed with dementia or Alzheimer's disease."

Females now obtain more schooling than men (Reeves, 2022), and they have much higher labor force participation rates than when the social convention of women providing care for the fragile elderly took shape. Nevertheless, when Grigoryeva (2017) studied data from the Health and Retirement Study for 1995 through 2010, she found that, "Neither sons' nor daughters' hours of care appear to have changed over the study period." To ambitious young females in my class, the prospect of bearing a larger share of responsibility for the care of an elderly parent than their male siblings was distressing.

Given the changing gender roles in society, what might be done to reshape this convention to fit contemporary circumstances? An undergraduate game theory course offers three possibilities: (1) an inheritance designed by the parents to punish noncontributors to their care in old age, (2) a strategic move in a game between two children (a daughter and son) caring for an elderly parent and (3) a fair division of responsibilities for providing the care. We examine all three possibilities in this paper.

We organize the rest of the paper as follows. Section 2 frames the strategic interaction between the children as a coordination game and explores the possibilities of parents designing their children's inheritance to punish noncontributors to parental care and of the daughter making a strategic move to induce more equitable responsibility sharing. Section 3 investigates solutions using fair division methods. Section 4 demonstrates how our analysis aligns with a model of a married couple, each choosing between a career and childcare, and

[3] In the sample of impaired elders that Lee et al. (1993) study from the National Long-Term Care Survey, nearly two-thirds of the elders are female.

suggests alternative ways to utilize our analysis in the classroom. Section 5 offers concluding remarks.

2. Sibling Care of an Elderly Parent as a Coordination Game

We can model sibling care of an elderly parent[4] as a coordination game in which each sibling has two strategies: contribute or don't contribute. With no clear order of moves, we treat the game as simultaneous (initially). Table 1 below shows the (ordinal) payoffs associated with each possible pair of strategies. In Table 1, the worst possible outcome for each sibling happens when both choose don't contribute, because leaving the parent to suffer alone in old age would be tragic. Both siblings contributing to the care of the parent would be better than neither sibling contributing, because it avoids the tragic outcome. However, the best outcome for each sibling may be for the other to provide the necessary care, as it would avoid both tragedy and an onerous burden. This configuration of payoffs yields the famous game of Chicken.

Table 1: Payoff Table for a Coordination Game

		Son	
		Contribute	Don't Contribute
Daughter	Contribute	1, 1	(0), (2)
	Don't Contribute	(2), (0)	-1, -1

Table 1 also illustrates the best response of each sibling to each possible strategy of the other sibling by circling the (higher) payoff associated with the optimal response. Best response analysis shows that: (1) neither sibling has a dominant strategy, (2) there are two Nash equilibria in pure strategies, and (3) the payoffs provide no focal point that brings about a convergence of expectations. Historically, social convention resolved this problem by assigning responsibilities for providing care to the elderly to females, as the opening quote indicates.

Dixit and Nalebuff (2008) suggest that parents with foresight could alter the payoffs in the game by making their children's inheritance contingent on contributions to the care of the parents in old age.[5] Suppose the penalty for noncooperation is sufficiently large that it reduces all the payoffs for non-contributors by 2. We then obtain the game in Table 2, where both players have dominant strategies and there is a unique Nash equilibrium: contribute-contribute. Here, the best outcome is the same for both siblings.

[4] We envision a single parent because the main caregiver for a married parent is usually the spouse (Bianca et al., 2012).

[5] They focus on *maintaining a relationship* with elderly parents (e.g., meet a quota of visits and phone calls) rather than providing needed care. They also suggest how to design incentives to undermine collusion among all siblings to make no visits or phone calls.

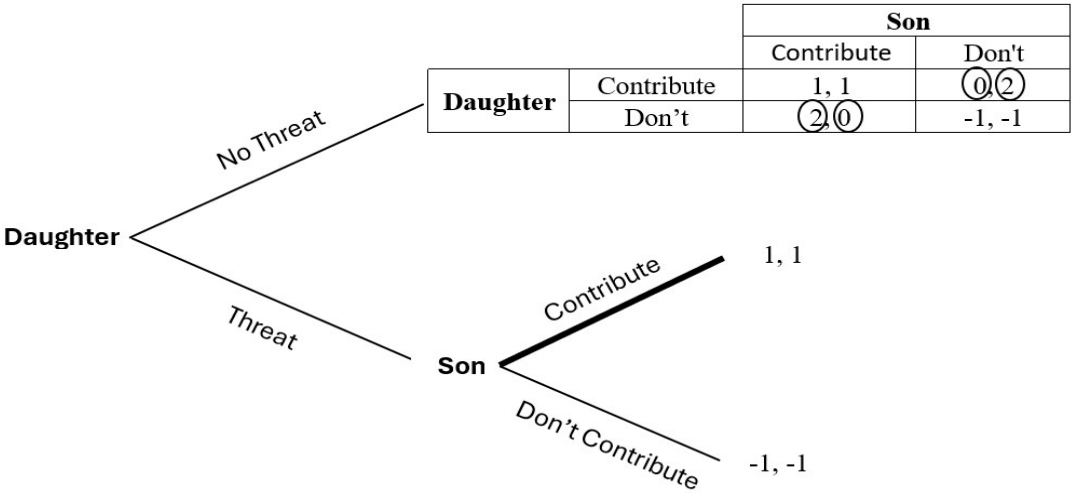
Table 2: Payoff Table for a Coordination Game with Penalties for Non-Contributors

		Son	
		Contribute	Don't Contribute
Daughter	Contribute	(1, 1)	(0, 0)
	Don't Contribute	(0, 0)	-3, -3

Unfortunately, many parents are not wealthy[6] and some who are wealthy may lack the foresight to incorporate these incentives into their estate planning. What could the daughter do on her own to change the game and achieve a more favorable outcome for herself? She could make a strategic move in a pregame that might induce the son to contribute. She could declare, "I will contribute to the care of the parent if and only if you contribute." Notice that her "response rule" hurts the son when he does not respond the way she wants; that is, she has the power to threaten him. We can interpret that power as a "compellent" threat (Schelling, 1960) as it is designed to induce him to take an action that she favors (contribute).

We introduce the possibility of a threat in Figure 1 by representing her as the first mover and attaching branches to her decision node. If she makes no threat (chooses the upper branch), the siblings play the original game given in Table 1. If she makes the threat (chooses the lower branch), then the son chooses his best response, with the relevant payoffs in the original game attached to branches from his decision node. With those payoffs, he has an incentive to choose the action that she favors (contribute). This outcome (where both contribute) is better for the daughter than the solution dictated by social convention (where only she contributes).

Figure 1: A Conditional Strategic Move by the Daughter



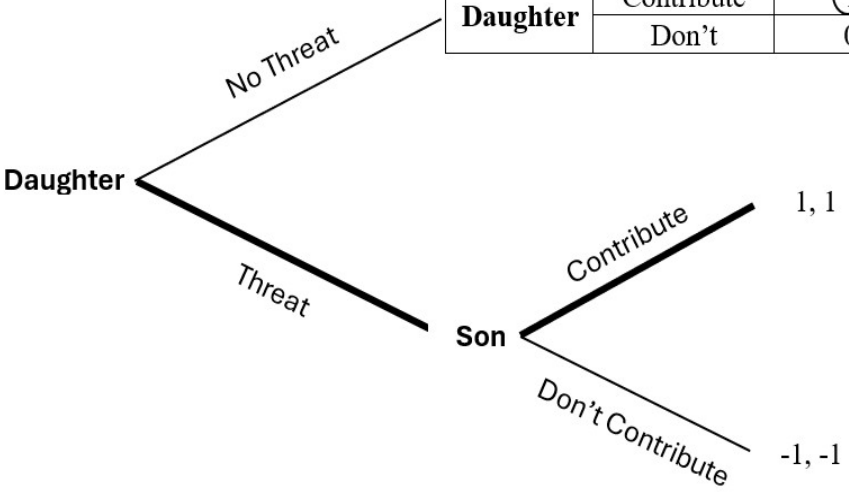
[6] Bookman and Kimbrel (2011) point out that, "The nation's legacy of racial oppression and structural inequality has created socioeconomic inequalities in education, health, housing, income, and wealth. Many low-income men and women of color enter old age after a lifetime of cumulative disadvantage, during which limited access to economic opportunity has obstructed efforts to accumulate savings for retirement and limited access to health care has led to poorer health."

There is a potential problem, however; the son may question the credibility of the threat. In the analysis of the original Table 1 game, her best response to his don't contribute strategy is to choose contribute. Would she be willing to let her parent suffer alone, the tragic outcome, if he refuses to contribute?[7] To make her threat credible, she must convince him that she will follow through on the threat, if necessary. Dixit et al. (2021) propose two ways to enhance credibility in a strategic move: either increase her own payoff for following through on the threat or reduce her own payoff for capitulating. The latter possibility seems more promising in this context. Siblings interact repeatedly over many years, which offers ample opportunity to establish a reputation for not making idle threats or promises. Capitulating then involves losing a valuable reputation, which makes that choice less attractive.

Suppose the loss of reputation for the daughter, either by capitulation (contributing when the son does not contribute) or by breaking her promise (not contributing when the son contributes), reduces her payoff by 2. Then we have the game displayed in Figure 2, where the prospect of losing a valuable reputation transforms the daughter's incentives such that she would contribute if and only if her brother contributes, which makes her declaration credible. Moreover, optimal choices in Figure 2, based on backward induction—shown by the bold branches in Figure 2—lead to both siblings contributing care. This version of the game shows that the daughter's problem has a solution, at least in principle, and illustrates the importance of developing a reputation that will be beneficial later in life.[8]

Figure 2: A Strategic Move with the Prospect of Losing a Reputation

		Son	
		Contribute	Don't
Daughter	Contribute	(1), 1	-2,(2)
	Don't	0,(0)	(-1), -1



[7] Note that following through on the threat would hurt the sister as well as the brother. This is precisely why the issue of credibility arises with the threat.

[8] Such a reputation would also be useful in other games in life, e.g., between a mother and child.

Clearly, it would be painful for the daughter to follow through on her threat if the son refused to contribute to the care of a parent. Lee (1992), a specialist in family sociology and the sociology of aging, writes "… [I]n contemporary societies with bilateral kinship systems, kin ties revolve primarily around women. … If kin ties revolve around women, it follows that the strongest kinship ties of all are those between mothers and daughters." Our formulation of the problem as a one-shot game makes the prospect of following through on the threat especially harsh, as it abandons the parent, more likely the mother than the father for demographic reasons, to the tragic outcome. More realistically, care is likely to extend over an unknown number of periods, so we could think of the game itself being indefinitely repeated. In that context, the daughter could adopt a tit-for-tat strategy: provide care initially and reciprocate the son's strategy in subsequent periods. In this way, she may be able to make the consequences of implementing her threat less harsh, for example, missing a doctor's appointment versus total abandonment of the parent.

Still, carrying out the threat is problematic, so we need to explore other options. We turn next to the possibilities for achieving a more balanced allocation of responsibilities between the siblings through methods of fair division.

3. Sibling Care of an Elderly Parent as a Fair Division Issue

When we analyze sibling care for an elderly parent as a fair division problem, it is important to make two observations. First, fair division is a non-zero-sum game (Brams and Taylor, 1996). If the daughter and son have different preferences over the duties to be divided, some allocations will make both players better off than other allocations. Second, contributions to care can be made in either time or money, which allows the care of the parent to be provided by members of the nuclear or extended family and friends, paid caregivers coming to the home, professional staff in a care facility, or some combination of these options.[9]

Contributions of time and money can also be combined to make the outcome more efficient and fairer. The sibling with a lower opportunity cost of time could devote time to caring for the parent, while the other sibling compensates them for lost labor market earnings, and perhaps lost retirement benefits. The compensation need not be given in the present; the siblings could agree that the one who provides care will inherit the house of the parent, in many cases the most valuable item in the estate.[10]

Another option would be for the siblings to use the divide-and-choose method to implement a fair division of obligations (time and money). The siblings would first list all the obligations of providing care. This list can be extensive and varied (Bookman and Kimbrel, 2011), for example: "[A]ctivities of daily living, such as eating, bathing, toileting, and dressing, or … instrumental activities of daily living, such as cooking, shopping, and bill paying … [or] medical tasks such as giving medications; dressing wounds after surgery; checking weight, blood pressure, and blood sugar levels; and monitoring medical equipment." Then let either sibling divide the list of obligations into two groups and the other sibling make the first choice. This method

[9] Bookman and Kimbrel (2011) note that, "Many studies show that families of color rely on extended kin networks and friends for financial assistance, material goods, domestic duties, and other supports. African Americans, especially, rely on networks of neighbors, friends, and fellow congregants." Incorporating these possibilities into the model would involve adding more players to the game.

[10] Such a division of obligations is analogous to arrangements for the protection and care of refugees. A poor country may offer asylum to the refugees while a rich country provides funding for food, shelter, education, health care, etc. to care for the refugees. In both situations, one party provides compensation to the other party for taking on an obligation.

will yield a fair allocation of obligations in the sense that neither sibling will envy (prefer) the obligations taken by the other; however, it will not necessarily be efficient if the divider lacks complete information about the preferences of the chooser (Brams and Taylor, 1996).

Another fair division arrangement, rotation between the parties—frequently seen in shared physical custody of children in a divorce settlement—would also be possible in principle in the case of siblings caring for an elderly parent. The parent could rotate between the homes of the siblings, spending equal time with each child to ensure an equal sharing of care responsibilities. Muhammad and Srivastava (2022) analyzed a sample of 4,952 adults 60 years and older in India, including about 13.5 percent in a rotational living status—moving from one adult child to another. They report that the adults in this subgroup were more likely to have low psychological health, low subjective well-being, and poor self-rated health. Hence, rotating an elderly parent between the homes of their adult children might equalize the burden of care among the siblings, but it seems too disruptive for the parent. Still, rotating some responsibilities (e.g., transportation to doctor visits) among siblings would seem to be a viable option.

4. Discussion

The issue analyzed in our paper shares similarities with the "tug between care and work" discussed in Chapter 1 of Golden (2021), where she asks, "Why aren't women able to advance up the corporate ladder at the speed of their male counterparts?" She finds the most common answers unsatisfying. First, occupational self-selection (e.g., females become nurses while males become doctors), an important factor historically, cannot be the primary source of gender disparity today, as two-thirds of the gender difference in earnings arises from within occupations. Second, a careful analysis of the data reveals that true gender discrimination in pay and employment (unequal pay for the same work), a major obstacle to gender equality for much of the twentieth century, is still present but is now relatively small. Looking at longitudinal data reveals that earnings profiles for women and men in the first decade after leaving college or graduate school are similar. The wage and earnings disparities begin after marriage and widen after a child is born.[11]

Golden (2021) argues that the real root of the problem is a tradeoff associated with "greedy jobs" involving inflexible schedules, being available to employers or clients for long hours, evenings, or weekends, and from which many organizations promote employees to upper management positions. One must choose between being on call at work or at home. Given such a tradeoff, a couple (heterosexual or homosexual) caring for a child faces a stark choice between "a marriage of equals or a marriage with more money" (Golden, 2021). Furthermore, with the rising age at first marriage and longer delays in time for first promotion in academia, law, consulting, and other fields, a sharp tension arises between having children and advancing one's career.[12] The efficient solution to the problem is (partial) specialization (Golden, 2012): "To maximize the family's potential income, one partner commits to a time-consuming job at the office while the other makes career sacrifices to take on the time-consuming job at home. Regardless of gender, the latter will earn less." Golden (2021) also makes an explicit connection to the issue we examine: "Gender norms that we have inherited get reinforced in a host of ways that allot more of the childcare responsibilities to mothers, *and more of the family care to grown daughters* [emphasis added]." She concludes that the last impediments to gender equality are

[11] Golden (2021) also points out that, "Almost 80-percent of college educated women who are today in their mid- to late 40s have given birth to a child (add 1.5 percentage points to include adoptions to those without a birth)." She also notes that women are now a clear majority of college graduates.

[12] This combination of factors, and the tensions they create for women, may contribute to declining birth rates and to the aging of the population that we highlighted in the Introduction.

the structure of work and our caregiving institutions: "Our work and care structures are relics of a past when only men had both careers and families." (Golden, 2021).

The decisions of a married couple choosing between career and childcare have been analyzed in the separate spheres bargaining model of Lundberg and Pollak (1993), in which a husband and wife make voluntary contributions of two public goods to the household. For reasons made clear by the observations of Golden (2021) just discussed, the advantages of specialization make the outcomes where the partners make different choices more efficient than when they make the same choice.[13] Lundberg and Pollak (1996) report that:

"This game may possess two Nash equilibria analogous to those in the "Battle of the Sexes" game—one in which the wife supplies good 1 and the husband good 2, and another in which the provider roles are reversed. … The choice between the two equilibria is likely to be sensitive to history and culture, which may generate a "self-evident" way to play."

In complete specialization, the two public goods could be thought of as a house (shared by all members of the household and provided via the income of the spouse with a greedy job) and household services (cleaning, meals, childcare, jointly benefitting all members of the household and provided by the spouse without a greedy job). Both the Battle of the Sexes game formulated by Lundberg and Pollak (1993) and the Chicken game used in our analysis belong to the family of coordination games. The two games have important similarities: (1) no dominant strategy, (2) two Nash equilibria, and (3) no focal point, which opens the door for history and culture (factors outside the formal models) to provide the convergence of expectations the players need to settle on an equilibrium. Hence, a game-theoretic analysis helps us to understand why history could have an enduring influence on both our parental care and childcare arrangements.

The analysis of the childcare problem and the parental care problem differs because of the institution of marriage, which influences the threat point in a Nash bargaining problem (how to divide household responsibilities). In the special spheres bargaining model, the threat point could be specified as either internal to the marriage (the maximum utility each partner can achieve in a noncooperative equilibrium)[14] or external (the maximum utility each partner can achieve after a divorce—the ultimate threat). The latter brings into consideration the possibilities for each partner in the marriage market. These considerations do not arise between siblings.

How could an economics teacher use the analysis of these career and family issues to engage students? The succession of game-theoretic concepts and models in our analysis of the sibling problem suggests treating them as pieces of a puzzle and using the cooperative learning technique "jigsaw."[15] This technique requires each student to teach other students how to apply the concepts and models. The instructor must cover essential topics—such as coordina-

[13] Lundberg and Pollak (1994) note that the advantage of specialization could arise from increasing returns to investments in good-specific human capital. In his classic *Treatise on the Family*, Becker (1991) makes the same point.

[14] Lundberg and Pollak (1993) write "In a noncooperative equilibrium, each spouse voluntarily provides household public goods, choosing actions that are utility-maximizing, given the actions of their partner." Such an equilibrium is inefficient, but it may be better for both partners than divorce, as each spouse receives some benefits from joint consumption of the public goods.

[15] On cooperative learning, see https://serc.carleton.edu/econ/cooperative/index.html. On the jigsaw technique, see https://serc.carleton.edu/sp/library/jigsaws/index.html.

tion games, strategic moves, the credibility of threats and promises, and various fair division methods—before introducing the application to the students. We suggest starting the session with a quiz on these topics to refresh the students' minds. It would also be helpful to present to the class some context and background to the problem, drawn from the Introduction section of this paper. The application is well suited to the jigsaw technique because (1) the concepts and models involved are related, (2) students in a game theory course can use them and teach them to other students successfully, and (3) no student needs to know all the concepts and models equally well.[16]

At this point, the instructor could arrange the students into five expert groups, each given a different piece of the puzzle to analyze:

- The initial coordination game (Table 1),
- The initial game, altered by an inheritance designed to punish noncontributors (Table 2),
- A conditional strategic move by the daughter (Figure 1),
- A conditional strategic move with the prospect of losing a reputation (Figure 2),
- A fair division of responsibilities using a short list of alternative methods.

This gives each group a structured problem to analyze—a payoff table, or game tree, or finding the most suitable fit(s) among a list of fair division methods for the problem at hand. To prepare students for the next stage of the activity, they should take notes (e.g., by annotating tables or figures or giving reasons for choices) on the analysis by their expert group.

Next, the students should be reassigned to teaching groups, such that one student from each expert group is included in each teaching group. Each student is responsible for explaining to their teaching group how to analyze one piece of the problem. By this point, all the students will have seen all the pieces of the puzzle. Each of the teaching groups can then discuss the relative merits of and practicality of the possible solutions to the problem. The following questions could be posed for this discussion:

- Which solution is more likely to work for your family: the parents devising an inheritance that punishes noncontributors or a sibling (daughter) developing a reputation that would be costly to lose?
- How would you devise such an inheritance or develop such a reputation?
- Would the divide-and-choose or rotation method of dividing responsibilities work better for your family? What makes one option better than the other?

In the various teaching groups, the discussions may yield different "best" solutions, depending on the circumstances of the families represented in each group. To highlight these differences, the instructor can conclude the session with a report from each teaching group on their answers to the discussion questions.

Alternatively, instructors could combine cooperative learning techniques by using "role playing" to organize the discussion stage of the activity. The students could be rearranged into

[16] For detailed instructions on how to use jigsaw, see https://serc.carleton.edu/sp/library/jigsaws/how.html and https://serc.carleton.edu/sp/library/jigsaws/steps.html.

groups of three, playing the roles of the daughter, son, and elderly parent. As economics classes often have more males than females, the male students can play the roles of both the son and the elderly parent. This method of structuring the discussion would bring out more clearly the differences in the perspectives of female and male students on the problem of sibling care of elderly parents.

The models of strategic interaction between siblings caring for an elderly parent and a married couple choosing between family and career give students tools for thinking through the problems, but they also raise other practical questions, applicable to males or females, to ponder (Golden 2021):

- "Should you date someone whose career is just as time-consuming as your own?"
- "Are you willing to walk away from an ambitious career (maybe one you've been building toward ever since you took your SAT) to raise kids? If you aren't, who will pick up your child from swim practice, and answer the panic-inducing call from the school nurse?"

As college graduates find life partners and consider having children, the question becomes, "Do you want a marriage of equals or a marriage with more money?" Care responsibilities can be shared, but with greedy jobs, couple equity is costly. To ease the tension between career and caring for family, how can we create positions with more flexibility in a wider range of occupations, and enable people in those positions to be more productive?

5. Conclusion

We have presented an application of game theory, strategic interaction in daughter-son care for an elderly parent, that illustrates the relevance of economic analysis to both female and male students. The application provides opportunities to illustrate several game theory concepts, including a coordination game (Chicken), a strategic move (threat), the need to establish credibility, and the role of fair division methods. The application involves both equity and efficiency considerations (the latter often overshadowing the former in economic analysis) and demonstrates how game theory can illuminate ways to gain leverage for transforming social conventions to fit the evolving economic circumstances for women.

We note several similarities and one crucial difference between our analysis and a model of a married couple each choosing between career and childcare, thus enabling economics teachers to link our analysis with other literature on game-theoretic analysis of gender issues. We also suggest ways to utilize cooperative learning techniques in analysis and discussion to engage and energize students, encourage interaction, and pose practical questions about how to address the challenges posed by family care in the 21st century.

The set-up costs for teachers are not significant, as students only need to understand how to construct and analyze payoff tables and game trees. It suffices to use ordinal payoffs, i.e., rank orderings of a few possible outcomes. Thus, the problem can be set up quickly, allowing the instructor to devote more time to discussing possible solutions, guided by the logic of strategic moves and a fair division of responsibilities.

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