Family Geography: Proximity and Caregiving

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Proximity vs Coresidence

There is a substantial literature focusing on coresidence and long-term care (LTC) of the disabled elderly.

There is some literature on grandchildren who live with their grandparents.

We focus on proximity rather than coresidence.
Proximity of Adult Children and their Parents - 1

How does proximity affect

1. Long-Term Care of the disabled elderly
2. Labor force participation of married women with young children
3. The grandchildren

What are the correlations?

To talk about causation is difficult: proximity isn’t randomly assigned.

What determines proximity?
Proximity of Adult Children and their Parents: 4 lines of work

1. Bargaining in families -- work with Shelly Lundberg on bargaining within marriage and with Liliana Pezzin and Barbara Schone on adult siblings bargaining over who will care for mom.

2. Work with Janice Compton on proximity and married women’s labor force participation.

3. Work with Liliana Pezzin and Barbara Schone on proximity and LTC

4. Work with Janice Compton on proximity and outcomes for grandchildren
Rosenmayr and Kockeis (1963) urged us to understand the consequences of “revocably detached” geographically dispersed intergenerational families.

Little is known about the extent to which families “reconstitute themselves” in later life or the processes which influence family reconstitution.
Families, Life Cycle & Geographic Distance - 2

Mobility is highest among young adults just after leaving the parental home marking the “beginning of intergenerational separation.”

Gradual decrease until a new peak around age 60 (retirement migration): this process often leads to greater intergenerational separation.

Third peak occurs as elderly persons become widowed or develop chronic illnesses, when many move to be near adult children and other relatives.
Families, Life Cycle & Geographic Distance - 3

Distribution and determinants of geographic distance between elderly parents and their adult children.

Geographic proximity, family solidarity and kin interaction. Rich literature showing that while some forms of contact (e.g., emotional support) are insensitive to distance, there is a strong negative relationship between instrumental support and geographic distance.

The causal factors behind this relationship, however, remains unclear.
Modeling Family Decisions

Historically, the dominant model of family decision-making in economics has assumed that one family member makes all family decisions (e.g., Becker’s “altruist model”)

Recent empirical findings have rejected this model in the context of traditional nuclear families as well as intergenerational families.

In response to these empirical findings, a rich set of game theoretical models has developed that recognize conflicting preferences among family members & the potential for strategic behavior.
Modeling Family LTC Decisions

Virtually no work has analyzed interactions among the adult children and no attention focused explicitly on proximate living as an alternative to coresidence as a way to facilitate providing assistance.

Our objective is to examine the geography of families in the context of an aging society and the need for LTC.
Incorporating Family Geography into the Analysis of LTC

Reformulating the standard analysis of migration and location decisions to recognize the role of family (i.e., endogenizing proximity).

Proximity & the economics literature: when not ignored, it is treated as an unintended byproduct of individual migration and location decisions driven by labor market concerns, housing costs and the availability of amenities.

Our approach: recognize that the location and migration decisions of family members
Location/Migration Decisions

Elderly Parents needing LTC moving near adult children
Adult Children whose parents need LTC moving near parents
Young Adults (e.g., to leave for school or career)
Game Theoretic Models of Family Bargaining

Game theoretic models & strategic interactions among small number of actors (countries, firms, families)
Provide a mechanism for divergent preferences to be translated into equilibrium outcomes

Boundaries of the family: who are the players?
  spouses of adult children?
  parents/siblings of spouses of adult children?
Family Bargaining and LTC

An adult child may want a family member to provide care to a parent but would prefer to have one of her siblings provide the care.

Family members may disagree about optimal living arrangements: in a nursing home vs. with an adult child vs. in the community independently near adult child(ren) vs. in the community far from child(ren)

Caregiving may be more tenuous with more geographically dispersed families or more complex families:

- nonmarital fertility,
- divorce and remarriage,
- stepchildren
Data

HRS = Health and Retirement Study
NSFH = National Survey of Families and Households
PSID = Panel Study of Income Dynamics
We use data from the Health and Retirement Study to characterize the spatial context of families over a 15-year span and to examine empirically factors affecting stability and changes in distances between elderly parents and their adult children.
HRS - AHEAD

Data source: AHEAD cohort of the HRS, 1993-2008
Baseline Sample: community-dwelling elderly respondents with at least one adult child (excluding those who always coresided with a child; a non-negligible group; Hotz, McGarry, Weimers paper)

Patterns of convergence and dispersion were examined separately for sub-samples stratified by their initial proximity (derived from “10 mile” HRS threshold):
- parent coresides with at least one child,
- lives far from all children,
- lives near at least one child
Proximity in HRS-AHEAD

6,750 HRS-AHEAD respondents meet our inclusion criteria.

Of those,  
773  (11.5%) lived with a child at baseline;  
3442  (51%) lived near at least one child and  
2535  (37.5%) lived >10 miles from all children.
Disability in HRS-AHEAD

23% reported difficulties with ADL or IADLs in 1993;

60% experienced difficulties with ADLs or IADLs during the study period
Geographical Mobility - 1: HRS, 1993 - 2008

- Overall, 25% of parents experienced increased proximity & 2.5% became more distant from children

- Of respondents living with a child in 1993:
  - 47% still coresided with child in last wave observed alive
  - 12% no longer coresided but lived nearby a child in last wave alive
  - 7% lived >10 miles from any child in last wave alive
  - 13.6% eventually entered a NH
  - 19.5% were deceased by 1995
Geographical Mobility - 2
HRS, 1993 - 2008

Of the respondents living nearby a child in 1993:
- 9.7% eventually coresided
- 51.2% remained nearby a child
- 12% lived far from all children
- 15.7% entered a NH
- 11% were deceased by 1995
Geographical Mobility - 3: HRS, 1993 - 2008

Of the respondents with no child nearby in 1993:

- 16.5% eventually lived 10 miles from at least one child
- An additional 8% eventually coresided with a child
- 48% remained far from all children
- 16.8% entered a NH
- 11% were deceased by 1995.

“Steady state” rate of geographic mobility (changed zipcodes) among parents: 18.5%

Among those who experienced convergence: 47%
Geographical Convergence
HRS, 1993 - 2008

Incidence of ADL/IADL disability was 42%-65% higher among parents who became more proximate to children than those who did not converge.

Incidence of widowhood was 25%-39% higher among parents who became more proximate to children than those who did not converge.
Proximity and LTC: Final Considerations

• Whether families that are geographically dispersed move closer together as a parent ages has important implications for the role of the family in providing LTC assistance.

• If proximity becomes more common as parents age, a natural question is whether proximity has protective effects for elderly parents in either delaying or avoiding entirely nursing home entry.

• Policies that seek to avoid costly institutionalization and to enable families to continue to play the major role in providing long-term care must recognize the importance of family geography.
Shifting Gears:

Proximity and Labor Force Participation of Married Women with Young Children.
Joint work with Janice Compton
Implications of geographical proximity of adult children and their parents for the labor supply of the adult children.

Our question: How does close geographical proximity to mothers and mothers-in-law affect the labor supply of married women with young children?

We use data from two sources:
1. National Survey of Families and Households (NSFH)
2. US Census.
We find that the predicted probability of employment and labor force participation is much higher – between 4 and 10 percentage points higher – for married women with young children who live close to their mothers and/or their mothers-in-law compared with those who do not.
We argue that there is clear and convincing circumstantial evidence that the mechanism is the availability of childcare.

More specifically, the mechanism is not actual or predicted childcare hours provided by mothers and/or mothers-in-law.

We argue that the increase in labor force attachment is driven by the availability of a mother and/or mother-in-law to meet irregular or unanticipated childcare needs – an “insurance” story.
We focus on proximity rather than actual or predicted hours for two reasons:

1. Childcare hours are endogenous: decisions about labor supply and childcare are closely linked.

2. Our empirical analysis shows
   (a) whatever is going on is related to young children and
   (b) whatever is going on is not operating through actual or predicted childcare hours
To be clear about our argument:

We do not have a natural experiment.

We do not have a structural model.

We find that close proximity to mother and/or mother-in-law increases the labor supply of married women with young children.

We argue that the concentration of these effects in this particular demographic group constitutes clear and convincing circumstantial evidence that the mechanism underlying this association is the availability of childcare.
The style of argument (with both NSFH and Census data):

1. We find large effects of proximity on the labor force attachment of married women with young children.

2. We do not find effects of proximity on the labor force attachment of men, of married women with no children, or married women with only older children.

3. We do not find effects for unmarried women with young children. We argue that their labor force attachment is inelastic: because they have to be in the labor force, these women are not sensitive to the availability of childcare to meet irregular and unpredictable needs.
The Literature - 1

There is a substantial literature on coresidence of adult children and elderly parents, focused recently on long-term care of the disabled elderly.

Costa vs Ruggles on why there has been a decline in coresidence:

Is it increasing affluence of the older generation? (Costa)

Or is it increasing independence of the younger generation? (Ruggles)
The Literature - 2

Proximity in economics; Not much published.
Konrad et al. (2002 AER); Rainer and Siedler (2009 OEP)
Unpublished: Compton and Pollak using NSFH
Loken, Lundberg, and Lommerud using Norwegian data
Hotz, McGarry and Weimers using PSID
Some published papers look at childcare using proximity as an instrument for family provided childcare:
Dimova and Wolfe (2008)
Zamarro (2009)
These paper don’t find much -- the action does not seem to come through childcare hours
Proximity outside economics -- sociology; demography; geography.

At the PAA in early April I discussed Seltzer, Bianchi, McGarry, and Yahirun, “Co-residence and Geographic Proximity of Mothers and Adult Children.”

Read it and look at the references.

The proximity literature has been largely focused on long-term care of the disabled elderly.

In this paper, we go in a different direction: child care and implications for labor force participation of adult daughters.
Evidence from NSFH (which provides information on distance between a married couple and his parents and her parents).

NSFH is one of the few data sets containing this information. Having distance to both mother and mother-in-law turns out to be important.
Outline - 2

Evidence from the Census (which does not provide information about distance, but provides information about whether an individual is living in his or her birth state; we use this as a proxy for proximity to a parent).

The census also allows us to construct a sample of “military wives” (civilian wives whose husbands are in the US military).

The census also lets us identify individuals who migrated from one state to another within the last 5 years, and, more specifically, to compare those who have returned to their birth state with those who migrated elsewhere.
NSFH - 1

National Survey of Families and Households (NSFH). We use the first two waves (1987-88) and (1992-94).

Panel data. 13,007 households in first wave.

We focus on those whose mothers and mothers-in-law are Alive and Living in the United States (ALUS).

NSFH provides distance to mother and distance to mother-in-law. Few data sets provide this information.

NSFH also provides information about the provision of “work related child care” and “non-work related child care” by his parents and by her parents.
Some Facts to Keep in Mind

1. Most adult Americans live surprisingly close to their parents.
2. There is a steep educational gradient.

Some terminology (due to Costa and Kahn, QJE, 2000)
- Power couples: both spouses college graduates
- Low power couples: neither spouse a college graduate
- Part power couples: only one spouse a college graduate.

3. Child care depends on close proximity
• Adults (≥25) whose mothers are “ALUS”

<table>
<thead>
<tr>
<th>MEDIAN DISTANCES</th>
<th>Including co-residents (d≥0)</th>
<th>Excluding co-residents (d&gt;0)</th>
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<tbody>
<tr>
<td>Non-married Adults</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>5 miles</td>
<td>15 miles</td>
</tr>
<tr>
<td>Women</td>
<td>8 miles</td>
<td>15 miles</td>
</tr>
<tr>
<td>Married Adults</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Her Mother</td>
<td>20 miles</td>
<td>22 miles</td>
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<tr>
<td>His Mother</td>
<td>25 miles</td>
<td>25 miles</td>
</tr>
</tbody>
</table>
## Couples and Proximity

- **Strong Education Gradient**

<table>
<thead>
<tr>
<th></th>
<th>Low-Power Couples</th>
<th>Part-Power: She has college degree</th>
<th>Part-Power: He has college degree</th>
<th>Power Couples</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSFH Wave 2. Lives within 30 miles of</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neither mother</td>
<td>18.9</td>
<td>25.5</td>
<td>35.8</td>
<td>49.4</td>
</tr>
<tr>
<td>Her Mother</td>
<td>17.4</td>
<td>23.2</td>
<td>13.6</td>
<td>15.9</td>
</tr>
<tr>
<td>His Mother</td>
<td>13.9</td>
<td>16.4</td>
<td>15.3</td>
<td>16.3</td>
</tr>
<tr>
<td>Both Mothers</td>
<td>49.9</td>
<td>34.8</td>
<td>35.3</td>
<td>18.4</td>
</tr>
</tbody>
</table>
NSFH - 3

– Couples, Singles aged 25-60 whose mothers are ALUS
– 1837 unmarried women,
– 2954 married women
– Define “Close Proximity” as 25 miles or less
– Distance (in miles) to mother and mother-in-law. Distance vs time.
– Distance to mother and mother-in-law is associated with labor force attachment
Percent of Married women aged 25-60, with a child 12 or under, who are working full-time (NSFH)

Do not live near mom: 30%
Live near mom: 46.5%
Percent of Married women aged 25-60, with a child 12 or under, who are working full-time (NSFH)

Do not live near mom: 4.5
Live near mom: 12.5
Neither: 30
His Only: 42
Hers Only: 44
Both: 46
The raw data is especially suggestive because the factors associated with living close to mother and mother-in-law are those generally associated with lower labor force attachment.

Women are younger and less educated
They have less educated mothers and husbands
They are more likely to be black or Hispanic
They are less likely to live in an MSA and more likely to live in areas of higher unemployment.
Regression analysis: what happens when we introduce control variables (e.g., race, education, husbands’ characteristics, age and health of mother and/or mother-in-law.

We consider two outcome variables:
1. whether woman works or not (dichotomous)
2. Usual weekly hours (continuous)
We find that receipt of childcare from one’s mother or mother-in-law is not a statistically significance determinant of married women’s labor force behavior in any specification. This is consistent with what others have found.
NSFH - 7

We find that proximity to mothers or mothers-in-law has a direct effect on the labor force behavior (both employment and usual weekly hours).

We find that proximity to mothers-in-law is an important part of the story. We distinguish among four groups:

1. Close to mother and close to mother-in-law
2. Close to mother but far from mother-in-law
3. Far from mother and close to mother-in-law
4. Far from mother and far from mother-in-law.
If we ignore mothers-in-law and just look at mothers, we are combining groups 1 and 2 and combining groups 3 and 4, so we have only two groups:

1 & 2. Close to mother and close to mother-in-law and close to mother but far from mother-in-law

3 & 4. Far from mother and far from mother-in-law and far from mother and close to mother-in-law.

With this comparison, we find no significant effect of being in group 1&2 compared with being in group 3&4.

But when we use all four groups, we find a strong and significant effect of being near both mothers or near mother-in-law only.
We partition the adult daughters into three groups
• mothers with young children (children 12 and under)
• mothers with only older children at home
• non-mothers

For married mothers with young children, we find a large and statistically significant effect of close proximity to mother-in-law or to both mothers increases the predicted probability of employment by 10 percentage points. (The coefficient on close proximity to only her mother is positive but insignificant.)
When we restrict the sample to married women with young children whose mothers or mothers-in-law are in poor health, we find no effect on labor force attachment.

This is consistent with our story about the availability of child care as the mechanism through which proximity affects labor force attachment.
Could job-search networks be the mechanism through which proximity affects labor force attachment?

No, because we see effects only for married women with young children -- not for men, not for married women with only older children, not for unmarried women.
The census does not ask distance to mother or mother-in-law.
But the census does ask about birth state.
As a proxy for a woman’s proximity to her mother, we use the woman’s residence in her birth state.
As a proxy for a women’s proximity to her mother-in-law, we use her husband’s residence in his birth state.
It’s not perfect, but it’s what we’ve got.
Census - 2

We use residence in birth state just the way we used “close proximity” in the NSFH to look at labor force attachment of various demographic subsamples (e.g., married women with young children).

The census also allows us to construct a subsample of “military wives” (civilian wives whose husbands are in the US military).

The census also lets us identify individuals who migrated from one state to another within the last 5 years and, more specifically, to compare migrants who returned to their birth state with migrants with other destinations.
We want to look at the effect on women’s employment and usual weekly hours of:

1. Living in the birth state of both spouses
2. Living in only her birth state
3. Living in only his birth state
4. Living in the birth state of neither spouse.

We also control for recent migration (i.e., living in a different state 5 years ago) and for the size of the state.

We look at women age 25-45 (this makes it more likely that the mothers and mothers-in-law are ALUS).
We also construct a sample of “military wives” -- civilian women with husbands in the US military. Our sample size here is 14,833, of whom 10.2% live in only her birth state, 5.1% living in only his birth state, and 8.7% live in the birth state of both spouses.

The advantage of the military wives, is that it controls, to some extent, for the endogeneity of location. (The husband’s location is arguably exogeneous; the wife’s, not so much. Notice the difference in the probably of living in her birth state vs his. This is presumably because the military assigns him, but she may be local.)
Raw data:

For married women with young children, we find increasing labor force attachment as we move from birth state of neither spouse to birth state of both spouses. For other groups (e.g., married women with only older children), we find nothing.

For military wives, we find a similar pattern for those with young children.

For never married women with young children, we find a negative association between birth state residence and labor force attachment.
Regression results:

We find a positive effect of birth state residence for married women with young children, but not for those without young children.

For the military wives, we find a positive effect of birth state residence for those with young children if they live in the birth state of both spouses.

The effect sizes are not as large as those we found using NSFH, but still substantial -- between 2.6 and 3.9 percentage points.
Birth state and migration: disentangling proximity effects and the tied mover effect.

The tied mover effect suggests that two-earner couples are less mobile than one-earner couples.

More important for our purposes, the tied mover effect suggests that secondary earners (read, wives) who migrate will have lower labor force attachment in the short run than those who do not migrate.
Are we just picking up a tied mover effect? No

1. The tied mover effect is about those who move as a couple, but we are looking at men and women who may have left their birth states separately (e.g., as unmarried individuals) and married subsequently.

2. The tied mover effect is suppose to work for all secondary earners who migrate, but we find an effect of birth state residence only for married women with young children.
3. The tied mover effects are believed to affect only recent migrants, but when we control for recent migration we find effects regardless of the timing of migration.

4. The tied mover effect predicts a negative effect of proximity to mother-in-law compared to proximity to mother (because women in proximity to mother-in-law are more likely to have migrated than those in proximity to mother). But we find a positive effect of proximity to mother in law.
Finally, we compare the labor force attachment of migrants and non-migrants, where migrants are those who were living in a different state five years earlier.

For married women with young children, non-migrants have higher labor force attachment than migrants, as the tied mover hypothesis predicts.

But when we compare married women with young children who migrate back into their birth state (return migrants) with those who move to another state (onward migrants), we find that the labor force attachment of return migrants is 4.5 percentage points higher than that of onward migrants. But no effects for other demographic groups.
Regression analysis for return migrants and outward migrants tells a similar story: the destination matters.

This suggests the need to disentangle the tied mover effects from the proximity effects.
Conclusion - 1

We have made out a clear and convincing circumstantial case that proximity affects the labor force attachment of married women with young children, and that the underlying mechanism is the availability of childcare to meet unanticipated needs.
Conclusion - 2

In the raw data, women living in close proximity to their mothers or mothers-in-law are more likely to be working and work more hours. Yet the demographic factors correlated with close proximity are typically correlated with lower rather than higher labor force attachment.
Regression results from NSFH

- We find proximity effects for married women with young children.
- We find no proximity effect for married women whose mothers or mothers-in-law are in poor health.
- We find no proximity effect for married women with older children or for married women without children.
Conclusion - 4

More regression results from NSFH

- We find no proximity effect for unmarried women with children, a result we attribute to the inelastic labor supply of unmarried women with children which makes them unresponsive to the availability of childcare.
- We find no proximity effect for unmarried women with older children or for unmarried women with no children.
- We find no proximity effect for married or unmarried men with young children.
Conclusion - 5

Turning to the census data and using living in one's birth state as a proxy for proximity to mother, we find more evidence that proximity affects the labor force attachment of married women with young children, and that the underlying mechanism is the availability of childcare to meet unanticipated needs.
Conclusion - 6

Using census data, we find

- for married women with young children, birth state residence increases the probability of labor force participation and employment by 2.6 - 6.1 percentage points. For married women without children, we find a small, negative effect of living in the birth state of one or both spouses.

- for never-married women with young children, birth state residence has a small negative effect on labor force participation; we also find a small, negative effect for never-married women without young children.
Conclusion - 7

Using census data we find for military wives with young children, living in the birth state of both spouses has a positive effect on labor force attachment; we find no effect of birth state residence on military wives with young children living only in his birth state or only in his birth state, and we find no effect of birth state residence on military wives without young children.
Conclusion - 8

Using census data we find

- that for married women with young children, the negative effect of migration on labor force participation is substantially less for those who move into their birth state (i.e., return migrants) than for those who move into another state (i.e., onward migrants). For married women with no children or only older children, we find no discernable difference between the effects of moving into their birth state and the effects of moving elsewhere.
Conclusion - 9

• This constellation of findings cannot be explained by either the network job search hypothesis or by the tied mover hypothesis -- the proximity effects are too tightly concentrated in a single demographic group -- married women with young children.
Conclusion - 10

We have tried to deal with selection, but we don’t have much to work with.

Do women with a taste for marriage, children, and working locate close to their mothers because to the availability of child care? Perhaps.
Yes, perhaps.

But on a priori grounds, you might have guessed that women with a taste for marriage, children, and working would locate far from their mothers because they are pursuing better labor market opportunities.
Theory

Why it is difficult to model proximity.

Modeling migration behavior as a game:

Four kinds of modeling choices:

- Players
- Feasible Set
- Preferences
- The Game
Players

Dynastic family is not a game, it is a decision problem for the founder of the dynasty. No strategic players on the other side.

2-person vs 3-person vs n-person games

Coalitions -- when there are multiple children, do they collude to extract payments from the parents?

Boundaries of the family not sharply defined. The “extended family”

Family trees overlap and are bushy.
Feasible Set

Coresidence (but where? Who’s house?)

Proximity

  Residential location (within city) vs

Cities as locations
Preferences - 1

Why care about location?
   Wages, prices, amenities, friends, family
Why care about proximity?
   Long term care
   Child care
   Proximity to people we love (e.g., grandchildren)
My sons’ locations affects my utility; it also affects the utility of his wife’s parents.
Preferences - 2

Proximity as a “family public good” (it affects everyone’s utility).

This does not imply that everyone places the same value on proximity, or even that everyone places a positive value on proximity.

According to George Burns, “Happiness is having a large, loving, caring, close-knit family in another city.”

If decisions are individualistic, then there are “externalities” (and Pareto inefficiencies) within the family.
Specifying the Game

Describing vs inventing the game
Cooperative vs noncooperative games
Konrad et al. Specify a noncooperative game
Without binding agreements, two-stage games are likely to yield Pareto inefficient equilibria
  side payments
  binding agreements
  dynamics
Norms and Expectations

About caregiving (e.g., child care; disabled elderly parents)
About migration, coresidence, and proximity
About education and career

“Family culture”
Obligations: The role of law vs the role of norms in defining obligations.