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Overview: The Regional Economics of Child Care

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Child care is an economic sector that traditionally has been underrepresented in economic analysis – particularly among regional economists. Child care typically is considered from a welfare or education frame and not as economic sector in its own right. But that is changing. Increased interest is being focused on the child care sector by economic developers, child care policymakers and regional economists. Over the last decade more than 84 regional economic impact studies of the child care sector have been undertaken across the United States and Canada. (see http://economicdevelopmentandchildcare.org/economic_impact_studies for a complete list). Each of these studies has reinterpreted child care as an economic sector and sought to develop better data on demand, supply and prices in the child care market. These efforts have been accompanied by increased academic inquiry regarding the determinants of child care prices, sources of geographical variation in linkage and spillover effects of the child care sector, and concerns about the adequacy of models that only look at the formal paid part of the child care sector. The four papers in this special section of the *Journal of Regional Analysis and Policy* address each of these issues.

The child care sector is a complex sector – composed of private market-based center and family care, informal paid market care, free public care (Head Start, PreSchool), and unpaid family care. Parents substitute between these forms of care, and activity in one part of the market affects the others. This makes regional economic modeling of the child care sector difficult. Another difficulty is understanding geographic differences in the composition of the child care sector, prices, and regional linkage and spillover effects. Three of the papers in this special section focus specifically on understanding geographic differences. Choi et al. in their analysis of spatial differences across the State of Kansas show that parental preferences and supply responses differ across the rural to urban spectrum creating important differences for policy. Liu

and Warner explore variation in child care multipliers across all fifty states, unpacking the IMPLAN input-output methodology to identify the source of cross-state differences. Davis and Li construct a model that addresses variation in child care center prices across all fifty states. While most regional economic models only look at the formal part of the child care sector, the majority of care is provided in the informal paid market and outside the market altogether through unpaid family friend and neighbor care. Pratt challenges regional economists to bring non-market care into the standard regional economic modeling framework so that an adequate valuation of both market time and non-market care time can be determined. Together these four papers illustrate important modeling challenges in the child care sector. But they also raise questions of more general interest to regional economists – understanding spatial variation, and the role of market composition, government policy and household behavior in determining price, supply, linkage and spillover effects, and opportunity costs.

Understanding spatial variation in child care supply, demand, linkage and spillover effects is the focus of the Choi et al. paper. The paper gives special attention to data collection and develops an understanding of differences in child care supply across metro areas and non-metro areas in the State of Kansas. They find that just a third of children with working parents in Kansas use formal care, and of that group, the majority use family child care. This is especially true in rural areas where there are few economies of scale to make center care profitable. Families face additional time and travel costs to child care in rural areas which contributes to the heavier reliance on family care homes and informal care. They use IMPLAN software to model the regional economic effects and give special attention to spillover and linkage effects. They divide the state into seven regions and also look at the four largest metro areas and compare them to the non-metro parts of the state. They find an

asymmetry in child care's linkage effects – with highest impact in urban areas and lowest in rural. The highest spillover effects (including output, total value added, labor income and employment) are from rural to urban areas. They argue that increased public policy attention should be given to strengthening formal child care supply in rural areas, as the benefits not only accrue to rural areas but also to the urban areas due to the substantial rural to urban spillover effects.

Liu and Warner also look at spatial variation but their focus is on child care multipliers across the fifty U.S. States. They conduct input-output models using IMPLAN for all fifty states and map the variation in child care employment and output multipliers. They look inside the IMPLAN model to understand the sources of geographic differences in multipliers. Special attention is given to how IMPLAN develops the state child care production functions given the national benchmark model. They then bring in state policy variables, demographic variables and other variables describing the structure of the state economy. They find child care multipliers are positively correlated with higher state quality standards and reimbursement rates as well as measures of urban complexity and size of economy. However, when brought into a multiple regression framework, the policy variables are of less significance. Most of the variation in multipliers is explained by structural features of the IMPLAN modeling system itself – gross absorption coefficient of child care and local child care purchases from the services sector. State median multipliers – a proxy for the complexity of the state economy – show the highest explanatory power. They argue future modelers may wish to adjust the structural elements of the IMPLAN-derived production function with better data. Significant improvements could be made in value added, especially labor, as IMPLAN's data sources significantly undercount self employment (family child care) which can be the majority of formal child care supply in some states.

Davis and Li also address national variation in child care with a focus on what explains variation in formal child care center prices across states. They find variation in child care prices across states is larger than variation in rent or in median family income. They build a model that considers demand, supply and government policy variables. They find seventy percent of the variance is explained by median income, child care worker wages and number of young children in the state, with median income having the largest effect. The U.S. child care market is primarily a private pay market. The average center depends on parent fees for 88 percent of its revenue (Helburn and Howes, 1996). Even when including public programs

such as Head Start and Preschool, sixty percent of the revenues in the early care and education sector are paid by parents, in contrast to higher education where parents pay only forty percent of the costs (Mitchell, Stoney and Dichter, 2001).

Davis and Li find variation in child care center prices across states is twice the level of variation in median income, and average center prices are higher than average rent in 49 of 50 states. Child care prices are linked to quality – higher in states with higher staff to child ratios. There are large variations in state regulatory policy regarding staff ratios (from a low of 1 teacher to 8 four year olds in NY to a high of 1 teacher to 20 four year olds in NC). While public subsidies to help low income families pay for child care have risen since Welfare Reform in 1996, these are shown to have a small impact on child care prices in their model. Davis and Li argue more attention needs to be given to the linkages between affordability and quality. Government policy needs to recognize the complexities of the child care market and the dangers of such heavy reliance on parent payments.

Each of the above three papers has focused on the formal, paid part of the child care sector with primary emphasis on center care. The final paper in this special section moves attention to the unpaid care sector – with special attention to parental care. Pratt argues that non-market care time forms the foundation for much market based activity and that regional economic models can be constructed to account for the substitution between market and non-market (household) work. He provides a brief history on the debates over what should be included in National Income and Product Accounts and the inadequacy of leaving out measures of household production. While most recent efforts to value family care time use a replacement wage approach (Folbre, 2008), Pratt presents an alternative approach. He uses the concept of duality between inputs and outputs to develop an approach that constrains the input-output framework by labor time using data from the 2006 American Time Use Survey. This procedure allows him to develop an opportunity cost measure by occupation and industry for an additional hour of family care time. He argues this approach better meets the standards suggested by the National Academy of Sciences (Abraham and Mackie 2005) to use dollar prices at marginal values based on observable market transactions. He finds large variation in the opportunity cost of family care time across industries and occupations. While most public policy treats non-market family care time as of little or no value, Pratt finds the opportunity cost to the economy of an additional hour of family care ranges from \$50 to \$500 dollars at the margin. He argues it is time

economists gave more attention to integrating non-market family care into regional economic models.

Child care is an economic sector that presents important modeling challenges to regional economists. The substitutability between formal market care, informal market care, and non-market family care requires a more comprehensive modeling approach. Even studies of the formal child care market face serious problems with data quality and coverage as the child care is a sector dominated by small providers with ease of entry and exit. While government is a major player in other education sectors (K-12, higher education), it is a minor player in the child care sector. That needs to change, as heavy reliance on parent fees limits quality and skill upgrading in the sector and promotes informal market supply.

Traditionally, regional economic models have given primary emphasis to export sectors as these were considered primary engines of the economy. But as local services grow in importance and economic developers recognize the importance of quality of life to economic development, better ways of modeling local service sectors need to be developed (Kay et al 2007). Child care is an especially challenging service sector to model and these articles represent important advances in our understanding of regional economic effects.

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