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TIME-SAVING INNOVATIONS, TIME ALLOCATION, AND ENERGY USE: EVIDENCE FROM CANADIAN HOUSEHOLDS

ABSTRACT

Time and energy are major inputs into the production of household goods and services. As a result, the market penetration of time-saving technologies for general household use is expected to affect both a household's (i) allocation of time across home production and leisure activities: and (ii) energy use. For example, with a household's adoption of a microwave or a dishwasher, cooking food and washing dishes will require less time, and therefore in-home meal preparation may increase. Households with microwaves or dishwashers may also opt to spend more time undertaking other production activities, inside or outside the home, or engage in more leisure (watching TV, reading, exercising). To the extent that time is reallocated from less to more energy-intensive activities in the home, residential energy use will increase as households adopt appliances that embody timesaving technology. Furthermore, an adoption of time-saving technologies for basic household chores, such as meal preparation and laundry, can impact energy use due to the fact that many time-saving technologies are more energy intensive than alternative technologies that require larger time commitments. In this paper, we use the Canadian Survey of Household Energy Use data from 2003 to examine the extent to which ownership of products that embody time-saving innovations affects time allocation and energy use at the household level. (C) 2009 Elsevier B.V. All rights reserved.

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