#### ANGELA DENIS

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### **Office Contact Information**

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### Education

The University of Chicago, 2014 to present

Ph.D. Candidate in economics

Thesis title: "Heterogeneous and Uncertain Health Dynamics and Working Decisions of Older

Adults"

Expected Completion Date: June 2021

Universidad de Chile, 2000-2010

Master's in applied economics, with High Honors Mathematical Engineering, with High Honors

Bachelor of Engineering Science in Mathematics, with Honors

References:

Professor Stéphane Bonhomme (chair) Professor Alessandra Voena

University of Chicago Stanford University sbonhomme@uchicago.edu avoena@stanford.edu

(773) 834 6831 (650) 498 1096

Professor Derek Neal Professor David Meltzer

University of Chicago University of Chicago, Harris Public Policy n9na@uchicago.edu dmeltzer@medicine.bsd.uchicago.edu

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## **Teaching and Research Fields**

Primary fields: labor economics, health economics

Secondary fields: applied econometrics

## **Teaching Experience**

<u>Lecturer:</u>	
2018	Econometrics, University of Chicago, undergraduate core course
2008 to 2014	Applied Econometrics, Pontificia Universidad de Católica de Chile,
	undergraduate course
2011	Econometrics, Universidad Alberto Hurtado, graduate course
2011 to 2013	Sample design, Universidad Alberto Hurtado, certification program course

<u>Teaching Assistant:</u>		
2019	Health Economics and Public Policy, University of Chicago, undergraduate course,	
	TA for Professor David Meltzer	
2017	Empirical Analysis III, University of Chicago, graduate course,	
	TA for Professor Stéphane Bonhomme	
2016	Empirical Analysis III, University of Chicago, graduate course	
	TA for Professors Bonhomme, Hansen, Hortacsu and Neal	
2016	Econometrics A, University of Chicago, undergraduate course	
	TA for Alejandro Hoyos	
2015	Empirical Analysis I, University of Chicago, graduate course	
	TA for Professor Stéphane Bonhomme	
2009	Evaluating Social Programs, J-PAL training course in Chile	
2009	Social Evaluation of Programs, Universidad Alberto Hurtado, graduate course	
2007	Microeconomics II, Universidad de Chile, graduate course	
2007	Econometrics, Universidad de Chile, graduate course	
2004-2006	4 other undergraduate math courses at Universidad de Chile	

# Research Experience and Other Employment

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## Honors, Scholarships and Fellowships

2020-2021	Harper Dissertation Fellowship, University of Chicago
2017-2020	Social Sciences Fellowship, University of Chicago
2014-2016	Frank H. Knight Fellowship, University of Chicago
2007	Andrews Fellowship Award, Institute of Social Research, University of Michigan

## **Professional Activities**

# Conference Organization:

2017 Empirics and Methods in Economics (University of Chicago & Northwestern University)

## Language and Computational Skills

Computer Skills: R, Stata, LaTeX

Languages: English (fluent), Spanish (native)

## Job Market Paper

"Heterogeneous and Uncertain Health Dynamics and Working Decisions of Older Adults"

As the population ages, there is a general concern and effort on trying to lengthen the labor-force participation of older adults. For older adults, health is an important determinant of working decisions. In this paper, I introduce heterogeneity in health dynamics with age and argue that uncertainty about health dynamics affects the working decisions of older adults. Using the Health and Retirement Study, I first show evidence of heterogeneity in health profiles with age. Second, I use subjective survival expectations to infer health beliefs in a Bayesian-learning framework. Third, I estimate how working decisions depend on those beliefs flexibly, using a neural-network approach that does not require additional structure. The results show beliefs have substantial negative bias. That is, on average, individuals incorrectly believe their health will deteriorate too fast. Furthermore, eliminating that bias would increase labor-force participation by up to 2 percentage points. In the last part of the paper, I look at a policy that could affect beliefs: the provision of information on blood glucose and cholesterol levels. I take advantage of the randomization on the collection and provision of such information. The results show the information has only small effects on beliefs and working decisions, and, consequently, policies with larger effects on beliefs are needed to delay retirement.

### Work in Progress

"Different types of formal long-term care and their effect on elderly's health: evidence from South Korea" (joint work with Kyeongbae Kim)

As the population ages, countries are spending a larger share of their resources taking care of their elderly population. Further, there has been a large public effort in increasing access to formal in-home care. In this paper, we study the effects that formal long-term care – in-home formal care and institutionalized care – have on elderly's health. We argue different types of care may have different health effects and, hence, disentangling those effects is important in evaluating the benefits of policies that favor one type of care over another. We study this question in the context of South Korea, where a public long-term care insurance program was established in 2008. The program provides care, mostly formal, to elderly individuals with healthcare needs. The needs of the elderly are evaluated and recorded. Importantly, these data can be linked to the National Health Insurance System, which is the only provider of medical services in the country. We use a regression discontinuity design to study the effects of the program on the type of care received by the elderly, as well as on their subsequent health. The independent evaluation of needs and the comprehensive health data, that include results from a universal health screening program and administrative data on medical claims, allow us to identify the effects of different types of formal care in a wide arrange of health indicators. This way, this research will shed light on the effects of different types of care on elderly's health, information that is crucial for this public policy domain.

"Nonlinearities in the persistence of health with age" (joint work with Jack Light)

Health is a relevant factor for several economic outcomes, including medical expenses, insurance decisions, retirement choices and long-term care spending. In studying these outcomes, health is assumed to be a stochastic process that changes over time. However, most of the literature assumes very restricted functional forms of health dynamics. In this paper, we study flexible forms of health dynamics focusing on older adults, for whom changes in health are prevalent. We

distinguish between persistent shocks, transitory shocks, and individual-level heterogeneity. Moreover, we allow for the persistent component of health to be nonlinear, following the quantile-based framework developed in Arellano, Blundell and Bonhomme (2017). This nonlinearity allows for the persistence of health to be age-dependent and asymmetric. Thus, the process can accommodate situations in which recovering from a bad health shock is increasingly more difficult with age, but with no age differences after a good health shock. Additionally, the process allows for new health shocks that erase the persistence of old shocks. Thus, the process can accommodate discrete bad events lasting for several periods, followed by a discrete recovery. Using the Health and Retirement Study, we estimate this flexible health process using a stochastic EM algorithm, that takes advantage of recent computational developments. Furthermore, the algorithm is modified to include a correction for mortality selection, which is relevant in the context of older individuals. By allowing more general health dynamics, this research sheds light in a key determinant of older individuals' outcomes and its changes over time.