



ELSEVIER

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

SCIENCE @ DIRECT®

Journal of Monetary Economics 51 (2004) 1495–1507

Journal of  
MONETARY  
ECONOMICS

[www.elsevier.com/locate/econbase](http://www.elsevier.com/locate/econbase)

# A present value test of habits and the current account<sup>☆</sup>

Joseph W. Gruber<sup>\*</sup>

*International Finance Division, Federal Reserve Board, Washington, DC 20551, USA*

Received 3 January 2002; accepted 19 December 2003

---

## Abstract

Forecasts derived from standard intertemporal current account (ICA) models generally fail to match the volatility of actual current accounts. This paper offers a solution to the “excess volatility” problem of standard ICA models by incorporating consumption habits into the standard model. The model, as developed in the paper, shows that significant habit formation implies increased current account volatility, as sluggishness is introduced into the consumption adjustment process that follows income shocks. A theory-consistent measure of the degree of habit formation is estimated using GMM. The estimated habit parameter is found to be statistically significant in six of eight quarterly samples.

© 2004 Elsevier B.V. All rights reserved.

*JEL classification:* E21; F32; F41

*Keywords:* Habit formation; Consumption; Current account

---

---

<sup>☆</sup>The views expressed are those of the author and do not reflect the views of the Federal Reserve System. I would like to thank Christopher Carroll, Thomas Lubik, Louis Maccini, David Bowman, John Rogers, Robert Martin, and seminar participants at the Board of Governors, Federal Reserve Bank of San Francisco, University of Virginia, Johns Hopkins University, University of Tennessee, University of Oklahoma, SUNY-Stony Brook, and the College of William and Mary for their helpful comments and suggestions. Naturally, all errors are my own.

<sup>\*</sup>Tel.: +1-202-452-3931; fax: +1-202-736-5368.

*E-mail address:* [Joseph.W.Gruber@frb.gov](mailto:Joseph.W.Gruber@frb.gov) (J.W. Gruber).

## 1. Introduction

A central feature of intertemporal current account (ICA) models, as introduced by Sachs (1981), is the important role attributed to aggregate consumption behavior in the determination of the current account. An implication of this is that the current account predictions of any particular ICA model are highly contingent on the model's specification of aggregate consumption behavior. In the standard ICA model, consumption is modeled as being chosen by an infinitely-lived representative agent with a time separable period utility function. This paper examines the model implications of relaxing the assumption of time separable utility through preferences that allow for habit formation in consumption.<sup>1</sup>

Habits are shown to significantly improve the empirical performance of the ICA model. Particularly, current account forecasts derived from the habit model better match the volatility of actual current accounts.<sup>2</sup> The paper also provides open-economy estimates of the degree of habit formation in aggregate consumption for eight countries.

Habit formation affects the current account response to an income shock by slowing the adjustment of consumption to the shock. In the standard model, assuming a rate of time preference equal to the interest rate, consumption is set equal to permanent income and the current account is completely determined by deviations between current income and permanent income. With habit formation, the slow adjustment of consumption to a shock creates a temporary gap between consumption and permanent income that affects the current account in addition to any difference between current income and permanent income. Income shocks that affect current income to an equal or greater degree than permanent income have exaggerated current account effects with habits, and thereby increase the current account volatility that results from such shocks.

The degree of habit formation is estimated through the imposition of model-implied restrictions on the parameters of a VAR comprised of the current account and income changes, in a modification of the present value test methodology of Campbell (1987).<sup>3</sup> The VAR provides an estimate of the data-generating process for

---

<sup>1</sup>Habit formation in consumption expenditures has been proposed as a solution to a number of empirical anomalies associated with permanent income hypothesis models of intertemporal consumption behavior. Papers applying habit formation in an attempt to explain the equity premium puzzle include Constantinides (1990) and Campbell and Cochrane (1999). Carroll et al. (2000) proposes habits as an explanation for the direction of causality from national growth rates to aggregate saving. Fuhrer (2000) shows that habits allow the delayed response of consumption and inflation to monetary shocks that is observed empirically.

<sup>2</sup>Otto (1992) and Ghosh (1995) examine the excess volatility of actual current accounts in comparison to theory-based forecasts. Ghosh, studying five industrialized countries, finds the theory-predicted current account far less volatile than the actual series in every sample with the exception of the United States.

<sup>3</sup>Present value tests of the standard ICA model, introduced by Sheffrin and Woo (1990) and Otto (1992), test the model's implication that the current account should forecast income changes. A number of other papers have tested modifications to the standard ICA in order to better match the data. Nason and Rogers (2003) suggest that the addition of fiscal shocks and world real interest rate shocks improves the model's empirical fit. İscan (2002) studies the impact of durable and non-traded goods. Bergin and Sheffrin (2000) construct and estimate an ICA model that allows for the intertemporal impact of real exchange movements and a variable

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات