# Consumo

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# Consumo de los hogares

- El consumo es central para el bienestar, el crecimiento, los ciclos, la desigualdad, la tributación y los precios de activos.
- Su crecimiento agregado refleja prosperidad; sus fluctuaciones son costosas $\rightarrow$ estabilización es un objetivo clave de política.
- La distribución del consumo refleja mejor el nivel de vida que el ingreso $\rightarrow$ base de políticas redistributivas y sociales.
- Las decisiones de consumo determinan factores de descuento estocásticos en los mercados financieros.
- La teoría y la evidencia sobre consumo han impulsado avances centrales en economía (modelos de ciclo de vida, optimización dinámica, uso de microdatos).

# Equilibrio parcial

$$\max_{\{c_t\}_{t=0}^{T}} \sum_{t=0}^{\infty} \beta^t u(c_t)$$

$$\text{s.a.} \tag{1}$$

$$c_t + s_t = y_t + s_{t-1}(1+r)$$

$$s_{-1} \quad \textit{dado}$$

**Ecuación de Euler (Sustitución)**

$$\frac{u'(c_t)}{\beta u'(c_{t+1})} = 1 + r. \tag{2}$$

Bajo preferencias CRRA:

$$\frac{c_{t+1}}{c_t} = [\beta(1+r)]^{\sigma}. \tag{3}$$

# Equilibrio parcial

Sea $(1 + r_t) \equiv R \quad \forall t$ (tasa bruta de interés)

$$c_t = \left(1 - R^{-1}(\beta R)^{\frac{1}{\sigma}}\right) \left[\sum_{j=0}^{\infty} \left(\frac{1}{R}\right)^j y_{t+j}\right]. \tag{4}$$

Entonces

$$PMC = 1 - R^{-1}(\beta R)^{\frac{1}{\sigma}} \tag{5}$$

- Si $\beta R = 1$, $PMC = 1 - \beta$ y el consumo no crece.
- Si $\beta R = 1$, $PMC \approx r$

**Hipótesis Ingreso Permanente**

- Si $\beta R = 1$ la PMC es $1 - R^{-1}$.
- Si el choque es permanente, por ejemplo un aumento en una unidad en $y_{t+j}$ para todo $j \geq 0$, la renta permanente crece $1 / \left(1 - R^{-1}\right)$ y, por tanto, el cambio en el consumo presente es 1.

# Respuesta del consumo a los cheques de estímulo en pandemia

**Table 6:** The response of consumer expenditure to EIP arrival estimated on recipients and non-recipients using the methodology previously applied to tax rebates

| | Food and alcohol | Strictly Nondurables | Nondurable goods and services | All CE goods and services | Food and alcohol | Strictly Nondurables | Nondurable goods and services | All CE goods and services |
|---|---|---|---|---|---|---|---|---|
| | *MPC* | | | | *Dollars spent* | | | |
| | | | | *Panel A. EIP1* | | | | |
| *EIP1* | 0.043 | 0.071 | 0.077 | 0.280 | | | | |
| | (0.032) | (0.044) | (0.059) | (0.217) | | | | |
| $\mathbf{1}[EIP1 > 0]$ | | | | | 157.3 | 296.4 | 375.0 | 1278.8 |
| | | | | | (89.9) | (130.2) | (167.8) | (647.5) |
| | | | | *Panel B. EIP2* | | | | |
| *EIP2* | 0.011 | 0.037 | 0.030 | 0.008 | | | | |
| | (0.029) | (0.044) | (0.055) | (0.325) | | | | |
| $\mathbf{1}[EIP2 > 0]$ | | | | | -57.1 | -11.1 | -10.1 | -498.7 |
| | | | | | (51.7) | (79.3) | (99.5) | (749.8) |
| | | | | *Panel C. EIP3* | | | | |
| *EIP3* | 0.001 | 0.001 | 0.005 | 0.222 | | | | |
| | (0.013) | (0.017) | (0.023) | (0.149) | | | | |
| $\mathbf{1}[EIP3 > 0]$ | | | | | 14.2 | -6.3 | 22.7 | 702.1 |
| | | | | | (45.1) | (70.3) | (91.4) | (648.7) |

*Notes:* Table reports $\beta_0$ from estimation of equation 1 with $S = 0$ with dollar change in consumption as the dependent variable and using weighted least squares using average weights. Standard errors included in parentheses are adjusted for arbitrary within-household correlations and heteroskedasticity. Regressions also include interview month dummies, age, and change in the size of the CU. The samples are constructed as in previous research papers (see Appendix). Panel A has 5,634 observations and includes the sample of all CE households with an interview in June or July 2020. Panel B has 8,302 observations, includes the sample of all CE households with an interview in February, March, or April 2021, and additionally includes controls for EIP1 and EIP3. Panel C has 7,335 observations, includes the sample of all CE households with an interview in April, May or June 2021, and additionally includes controls for EIP1 and EIP2.

Fuente: Parket et al. 2022

`https://mitsloan.mit.edu/shared/ods/documents?PublicationDocumentID=9522`

# Asimetría a choques de ingreso esperados

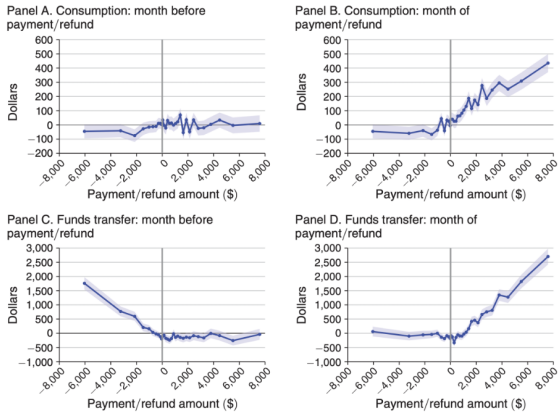



FIGURE 1. CONSUMPTION AND FUND TRANSFERS AROUND TAX PAYMENT OR REFUND

Fuente: Baugh et al. 2021

`https://mitsloan.mit.edu/shared/ods/documents?PublicationDocumentID=7668`

# Asimetría en las respuestas

- Los hogares consumen más cuando reciben reembolsos $\rightarrow$ sugieren restricciones de liquidez.

- Sin embargo, no usan ahorros líquidos para suavizar el consumo antes del reembolso ("liquid hand-to-mouth", Olafsson y Pagel, 2018).

- A diferencia de la heurística hand-to-mouth simple, sí acceden a ahorros líquidos para realizar pagos.

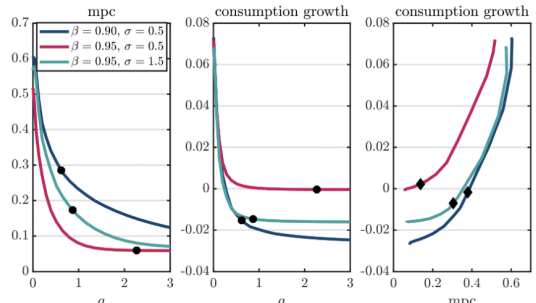
- Patrón observado: gasto impulsivo al recibir reembolsos (Agarwal et al., 2019; Ben-David y Bos, forthcoming).

# Hand-to-mouth

- Hogares que mantienen un bajo nivel de riqueza (ahorro cero). Es decir, tienden a consumir exactamente su ingreso.
- Una explicación son heterogeneidad de preferencias y restricciones de endeudamiento.
- El modelo que vimos en clase sugiere que estos hogares tienen alta PMC y su consumo crece más.

# Asimetría a choques de ingreso esperados

Figure 1: MPC and Consumption Growth




Note: The left panel depicts $\partial \mathcal{C}(x,y)/\partial x$ as a function of $a$. The middle panel depicts $\mathbb{E} \ln \left( \frac{\mathcal{C}(x',y')}{\mathcal{C}(x,y)} \right)$ as a function of $a$, where the expectation is over $y'$ with $x' = Ra' + y'$ and $a' = x - \mathcal{C}(x,a)$. The right panel depicts $\partial \mathcal{C}(x,y)/\partial x$ on the x-axis and $\mathbb{E} \ln \left( \frac{\mathcal{C}(x',y')}{\mathcal{C}(x,y)} \right)$ on the y-axis. The black dots in the left and middle panels are the mean value of $a$. The black diamonds in the right panel are the mean MPC. All objects are for agents at age 40.

Fuente: Aguiar et al. 2024. `https://www.markaguiar.com/files/h2m.pdf`

Table 2: Summary Characteristics of the Hand-to-Mouth

| | Not $H2M$ | $H2M_{NW}$ | $H2M_{LIQ}$ |
|---|---|---|---|
| Age | 46.7 | 40.0 | 44.8 |
| Income | 99,280 | 47,758 | 64,874 |
| Earnings | 90,263 | 45,464 | 56,335 |
| Liq Wealth (median) | 13,666 | -7,776 | -2,305 |
| Net Worth (median) | 174,182 | -2,316 | 50,817 |
| High Liquid Debt | 24.7% | 65.3% | 54.3% |
| Sample Shares | 59.3% | 23.3% | 17.3% |

Note: All figures in 2009 dollars. High Liquid Debt equals one for households with credit card, store credit, student loans, medical or legal bills, or loans from family that sum to a month's or more of earnings, zero otherwise.

- El modelo implica que las preferencias $(\beta, \sigma)$ explican el comportamiento de hogares H2M.
- H2W son más impacientes y menos elásticos (IES).
- Transferencias fiscales con alto impacto pero solo si es enfocada. Recortes en la tasa de interés con menor impacto.

Fuente: Aguiar et al. 2024. `https://www.markaguiar.com/files/h2m.pdf`

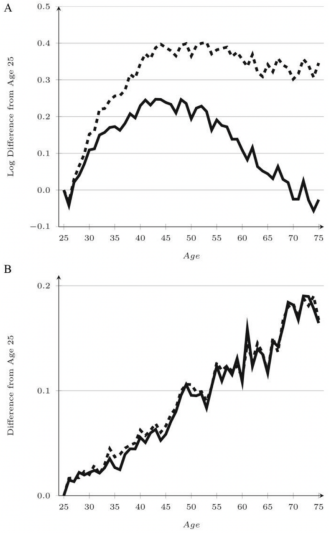
# Propensión marginal a consumir y diferencias raciales

| | Dependent Variable: Δ Log Non Durable Consumption | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Δ Log Income | 0.075 | 0.057 | 0.214 | 0.163 | 0.258 | 0.220 | 0.268 | 0.252 |
| | (0.004) | (0.003) | (0.017) | (0.011) | (0.019) | (0.013) | (0.020) | (0.015) |
| (Δ Log Income) x Black | | 0.048 | | 0.175 | | 0.102 | | 0.040 |
| | | (0.003) | | (0.031) | | (0.026) | | (0.023) |
| (Δ Log Income) x Hispanic | | 0.023 | | 0.127 | | 0.096 | | 0.029 |
| | | (0.003) | | (0.021) | | (0.019) | | (0.017) |
| (Δ Log Income) x Checking | | | | | −0.440 | −0.404 | | |
| | | | | | (0.039) | (0.032) | | |
| (Δ Log Income) x Liquid(Imputed) | | | | | | | −0.476 | −0.448 |
| | | | | | | | (0.046) | (0.036) |
| OLS/IV | OLS | OLS | IV | IV | IV | IV | IV | IV |
| Black and Hispanic Dummies | | Yes | | Yes | | Yes | | Yes |
| Asset Rank Control | | | | | Yes | Yes | Yes | Yes |
| Observations | 25,774,028 | 25,774,028 | 20,095,473 | 20,095,473 | 20,095,473 | 20,095,473 | 20,095,473 | 20,095,473 |
| Adjusted $R^2$ | 0.004 | 0.004 | −0.001 | −0.004 | −0.006 | −0.008 | −0.008 | −0.008 |

Note: This table shows estimates of the elasticity of consumption with respect to income ($\hat{\beta}$). Columns (1) and (2) show OLS estimates of the effect of income on consumption using equations (1) and (2) respectively. Columns (3)-(8) show IV estimates using equations (7) and (6). Standard errors are clustered at the firm level. Columns (5) and (6) control for a narrow measure of assets: checking account balance. Asset variables are parameterized as $AssetRank/N - 0.5$, so the variable is scaled from -0.5 for the lowest asset household to 0.5 for the highest asset household. Columns (7) and (8) control for liquid assets. Liquid assets are imputed using checking account balance and race. The IV specifications control for five lags of the change in coworker pay. See Section 3.7 for details.

Fuente: Ganong et al. 2023.
`https://www.nber.org/system/files/working_papers/w27552/w27552.pdf`

# Ciclo de vida




Fuente: Aguiar et al 2013. `https://www.markaguiar.com/files/deconstructing.pdf`

# Ciclo de vida

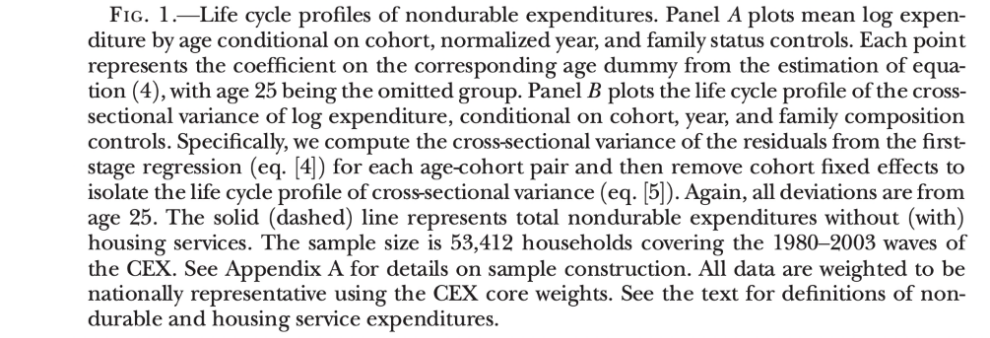
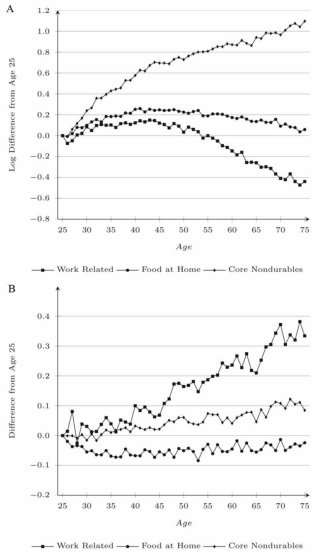


FIG. 1.—Life cycle profiles of nondurable expenditures. Panel *A* plots mean log expenditure by age conditional on cohort, normalized year, and family status controls. Each point represents the coefficient on the corresponding age dummy from the estimation of equation (4), with age 25 being the omitted group. Panel *B* plots the life cycle profile of the cross-sectional variance of log expenditure, conditional on cohort, year, and family composition controls. Specifically, we compute the cross-sectional variance of the residuals from the first-stage regression (eq. [4]) for each age-cohort pair and then remove cohort fixed effects to isolate the life cycle profile of cross-sectional variance (eq. [5]). Again, all deviations are from age 25. The solid (dashed) line represents total nondurable expenditures without (with) housing services. The sample size is 53,412 households covering the 1980–2003 waves of the CEX. See Appendix A for details on sample construction. All data are weighted to be nationally representative using the CEX core weights. See the text for definitions of nondurable and housing service expenditures.

Fuente: Aguiar et al 2013. `https://www.markaguiar.com/files/deconstructing.pdf`

# Ciclo de vida

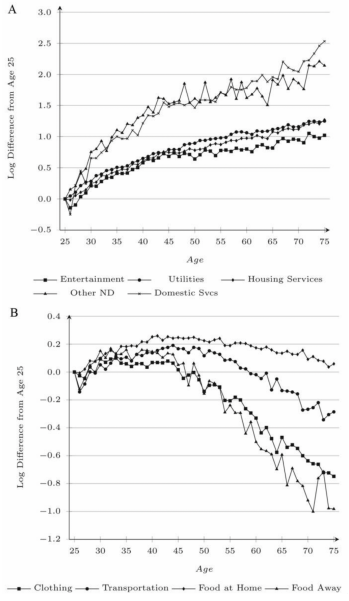



Fuente: Aguiar et al 2013. `https://www.markaguiar.com/files/deconstructing.pdf`

# Ciclo de vida

Fig. 2.-Life cycle profiles of three subaggregates. Panels *A* and *B* are identical to panels *A* and *B* of figure 1, respectively, except that we disaggregate nondurable consumption into three categories. The categories are food at home (circles); work-related expenses (squares), which include transportation, food away from home, and clothing/personal care; and core nondurables (diamonds), which include all other categories of total nondurable expenditure (including housing services but excluding alcohol and tobacco). See the caption of figure 1 for additional sample and estimation descriptions.

# Ciclo de vida



# Ciclo de vida

Fig. 3.-Life cycle profiles of disaggregated expenditure: means. This figure plots mean expenditure for disaggregated consumption categories by age conditional on cohort, normalized year, and family status controls. Each point represents the coefficient on the corresponding age dummy from the estimation of equation (4), with age 25 being the omitted group The consumption categories depicted in panel *A* are entertainment (squares), utilities (circles), housing services (diamonds), other nondurables (triangles), and domestic services ( x 's). The consumption categories depicted in panel *B* are clothing and personal care (squares), transportation (circles), food at home (diamonds), and food away from home (triangles). The sample is the same as for figure 1. See the text and Appendix A for a discussion of the consumption categories.