Measuring Consumption

Institution ____________________

Course_______________________

Academic Year________________

Draft 1.0

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Instructor ____

Email ____

Office hours (room) ____

Course description

The overall goal of the course is to improve the quality and comparability (both over time and across countries) of household survey data for living standards measurement. To do so, this course provides a conceptual framework for the measurement of living standards, and practical guidelines for questionnaire design and data collection, in the specific context of household consumption and expenditure modules.

Outline of the lectures

1) Measuring living standards: a conceptual framework
2) The Consumption Aggregate
3) Understanding Household Surveys
4) Principles of Questionnaire Design
5) Measuring Food Consumption – I
6) Measuring Food Consumption – II
7) Measuring Food Consumption – III
8) Measuring consumption of non-food non-durable goods
9) Durable goods
10) Housing
11) Data validation and diagnostics
12) Outlier detection and treatment
13) Measuring inequality
14) Measuring poverty
15) Describing data

Lectures and readings

Lecture 1 – Measuring living standards: a conceptual framework

Compulsory

- Deaton, A. and Zaidi, S. (2002). *Guidelines for Constructing Consumption Aggregates for Welfare Analysis*. LSMS Working Paper No. 135. Washington, DC: The World Bank. *(Sections 2.1, 2.2)*

Suggested

- Atkinson, A. B. (2015). *Inequality: What Can Be Done?* Harvard University Press. (ch. 1).
- Deaton, A., and Muellbauer, J. (1980). *Economics and consumer behavior*. Cambridge University Press.
- Meyer, B., and Sullivan, J. (2003) "Measuring the Well-Being of the Poor Using Income and Consumption", *The Journal of Human Resources*, 38.
- Meyer, B. D., and Sullivan, J. (2009). "Five decades of consumption and income poverty". National Bureau of Economic Research.
- Meyer, B. D., and Sullivan, J. (2011). "Further results on measuring the well-being of the poor using income and consumption." *Canadian Journal of Economics*, 44(1), 52-87.
- Ravallion, M. (2016). *The Economics of Poverty History, Measurement, and Policy*. Oxford: Oxford University Press. (ch. 3).
- Sen, A. (1987). *The Standard of Living*. Cambridge: Cambridge University Press. (ch. 1)
- Sen, A. (1987). Commodities and Capabilities. New Delhi: Oxford University Press.
- Stiglitz, J. E., Sen, A., and Fitoussi, J. P. (2009). Measurement of economic performance and social progress.
- World Bank Group. (2015). A Measured Approach to Ending Poverty and Boosting Shared Prosperity: Concepts, Data, and the Twin Goals. Policy Research Report. Washington, DC: World Bank. (ch. 1)
- World Bank. (2017). Monitoring Global Poverty: Report of the Commission on Global Poverty. Washington, DC: World Bank. (ch. 1)

Lecture 2 – The Consumption Aggregate

Compulsory

- Deaton, A. and S. Zaidi (2002), Guidelines for constructing consumption Aggregates for welfare analysis, LSMS Working Paper no. 135, World Bank, Washington DC. *(Sections 3-5)*

Suggested

- Chen, S., and Ravallion, M. (1996). Data in transition: Assessing rural living standards in southern China. China economic review, 7(1), 23-56.
- Diewert (2004), Durable and user costs, in ILO (2005), Consumer Price Index Handbook. *(ch. 23)*
- Gaddis, I. (2016). Prices for poverty analysis in Africa. The World Bank.
- Gibson, J. (2007). A guide to using prices in poverty analysis. World Bank, Washington, DC.
- Haughton, J. and Khandker, S. R. (2009). Handbook on poverty and inequality. Washington, DC: World Bank. *(ch. 5)*

Lecture 3 – Understanding Household Surveys

Compulsory

- Grosh, M., and Glewwe, P. (1998). Data Watch: The World Bank's Living Standards Measurement Study Household Surveys. The Journal of Economic Perspectives, 12(1), 187-196.

Suggested

- A'Hearn, B., Amendola, N., and Vecchi, G. (2016). On historical household budgets. Rivista di Storia Economica, 32(2), 137-176.
- Alkire, S. (2013). Towards frequent and accurate poverty data.
- Alkire, S., and Samman, E. (2014). Mobilising the household data required to progress toward the SDGs.
- Deaton, A. (1997). The analysis of household surveys: a microeconometric approach to development policy. The World Bank. *(Ch. 1, 1.3, p 32-40)*
- Lohr, S. L. (2009). Sampling: design and analysis. Nelson Education. *(Ch. 2: Simple Probability Samples)*
- Pape, Utz Johann and Mistiaen, Johan A.. (2018). Household expenditure and poverty measures in 60 minutes : a new approach with results from Mogadishu
- Stigler, G. J. (1954). The early history of empirical studies of consumer behavior. Journal of Political Economy, 62(2), 95-113.

Lecture 4 – Principles of Questionnaire Design

Compulsory

- Grosh, M. and Glewwe, P. (2000). Designing Household Questionnaires for Developing Countries, Lessons from 15 years of Living Standards Measurement Study, Volume One: World Bank. (*Ch. 2, 3)*
- Iarossi, G. (2006). The power of survey design - a user's guide for managing surveys, interpreting results, and influencing respondents. Washington, DC: World Bank. *(Ch. 2)*

Suggested

- Backiny-Yetna, P., Steele, D., & Dijma, I. (2017). The impact of household food consumption data collection methods on poverty and inequality measures in Niger. Food Policy, 72, 7-19.
- Barton, A. J. (1958). Asking the embarrassing question. Public Opinion Quarterly, 22, 67-68.
- Burgess, T. F. (2001). A general introduction to the design of questionnaires for survey research. Leeds: University of Leeds.
- Glewwe, P. (2005). Chapter III: Overview of questionnaire design for household surveys in developing countries. In United Nations Statistical Division, United Nations Department of Economic and Social Affairs (Eds.), Household surveys in developing and transition countries. New York, NY: United Nations.
- Grosh, M. and Glewwe, P. (2000). Designing Household Questionnaires for Developing Countries, Lessons from 15 years of Living Standards Measurement Study, Volume One: World Bank. (*Ch. 5)*
- Iarossi, G. (2006). The power of survey design - a user's guide for managing surveys, interpreting results, and influencing respondents. Washington, DC: World Bank. *(Ch. 3)*
- Jolliffe, D. (2001). Measuring absolute and relative poverty: the sensitivity of estimated household consumption to survey design. Journal of Economic and Social Measurement, 27(1, 2), 1-23.
- Krosnick, J. A., Et Presser, S. (2010). Question and questionnaire design. In J. D. Wright Et P. V. Marsden (Eds.), Handbook of survey research (second edition) (pp. 263-313). Bingley, UK: Emerald Group.
- Tourangeau, R., Groves, R. M., & Redline, C. D. (2010). Sensitive topics and reluctant respondents: Demonstrating a link between nonresponse bias and measurement error. Public Opinion Quarterly, 74,413–432.

Lecture 5 – Measuring Food Consumption (Part I)

Compulsory

- FAO and The World Bank. 2018. Food data collection in Household Consumption and Expenditure Surveys. Guidelines for low- and middle-income countries. Rome. *(Sections 2.1, 2.3, 3.1, 3.3)*
- Smith, L. C., Dupriez, O., and Troubat, N. (2014). Assessment of the reliability and relevance of the food data collected in national household consumption and expenditure surveys. International Household Survey Network. *(Sections 3.1, 3.2, 3.3.)*

Suggested

- Backiny-Yetna, P., Steele, D., and Dijma, I. (2017). The impact of household food consumption data collection methods on poverty and inequality measures in Niger. Food Policy, 72, 7-19.
- Beegle, K., De Weerdt, J., Friedman, J., and Gibson, J. (2012). Methods of household consumption measurement through surveys: Experimental results from Tanzania. Journal of Development Economics, 98, 3–18.
- Brzozowski, M., Crossley, T. F., and Winter, J. K. (2017). A comparison of recall and diary food expenditure data. Food Policy, 72, 53-61.
- De Weerdt, J., Beegle, K., Friedman, J., and Gibson, J. (2016). The challenge of measuring hunger through survey. Economic Development and Cultural Change, 64(4), 727-758.
- Fiedler, J. L. and Mwangi, D. M. (2016). Improving household consumption and expenditure surveys' food consumption metrics: developing a strategic approach to the unfinished agenda. IFPRI
- Friedman, J., Beegle, K., De Weerdt, J. and Gibson, J. (2017). Decomposing response error in food consumption measurement: implications for survey design from a randomized survey experiment in Tanzania. Food Policy, 72: 94–11.
- Gibson, J., Beegle, K., De Weerdt, J., and Friedman, J. (2013). What does variation in survey design reveal about the nature of measurement errors in household consumption?. The World Bank.
- Gibson, R. S. (2005). Principles of nutritional assessment. Oxford university press, USA.

Lecture 6 – Measuring Food Consumption (Part II)

Compulsory

- FAO and The World Bank (2018). Food data collection in Household Consumption and Expenditure Surveys. Guidelines for low- and middle-income countries. Rome. *(Sections 2.2, 2.4, 2.6, 3.2, 3.4, 3.6.)*
- Smith, L. C., Dupriez, O., and Troubat, N. (2014). Assessment of the reliability and relevance of the food data collected in national household consumption and expenditure surveys. International Household Survey Network. *(Sections 3.4, 3.5, 3.7.)*

Suggested

- Beegle, K., De Weerdt, J., Friedman, J., and Gibson, J. (2012). Methods of household consumption measurement through surveys: Experimental results from Tanzania. Journal of Development Economics, 98, 3–18.
- Bouis, H., Haddad, L., and Kennedy, E. (1992). Does it matter how we survey demand for food?: Evidence from Kenya and the Philippines. Food Policy, 17(5), 349-360.
- Finn, A. and Ranchhod, V. (2017). Genuine Fakes : The Prevalence and Implications of Data Fabrication in a Large South African Survey. Published by Oxford University Press on behalf of the World Bank.
- Gibson, J., and Rozelle, S. (2002). How elastic is calorie demand? Parametric, nonparametric, and semiparametric results for urban Papua New Guinea. Journal of Development Studies, 38(6), 23-46.
- Jolliffe, D. (2001). Measuring absolute and relative poverty: the sensitivity of estimated household consumption to survey design. Journal of Economic and Social Measurement, 27(1, 2), 1-23.
- Pradhan, M. (2009). Welfare analysis with a proxy consumption measure: evidence from a repeated experiment in Indonesia. Fiscal Studies, 30(3-4), 391-417.
- Troubat, N. and Grünberger, K. (2017). Impact of survey design in the estimation of habitual food consumption. The case of the 2007/08 Socio Economic Survey of Mongolia applied to urban households. Food Policy, 72(C): 132–145.

Lecture 7 - Measuring Food Consumption (Part III)

Compulsory

- FAO and The World Bank (2018). Food data collection in Household Consumption and Expenditure Surveys. Guidelines for low- and middle-income countries. Rome. *(Sections 2.5, 2.7, 3.5, 3.7.)*
- Smith, L. C., Dupriez, O., and Troubat, N. (2014). Assessment of the reliability and relevance of the food data collected in national household consumption and expenditure surveys. International Household Survey Network. *(Section 3.6.)*
- Oseni, G., Durazo, J., and McGee, K. (2017). The Use of Non-Standard Units for the Collection of Food Quantity. LSMS guidebook.

Suggested

- Borlizzi, A., Delgrossi, M. E., and Cafiero, C. (2017). National food security assessment through the analysis of food consumption data from Household Consumption and Expenditure Surveys: The case of Brazil's Pesquisa de Orçamento Familiares 2008/09. Food policy, 72, 20-26.
- Farfan, G., McGee, K. R., Perng, J., and Vakis, R. (2019). Poverty Measurement in the Era of Food Away from Home: Testing Alternative Approaches in Vietnam. Policy Research Working Paper Series 8692, The World Bank.
- Smith, L. C. (2015). The great Indian calorie debate: Explaining rising undernourishment during India's rapid economic growth. Food Policy, 50, 53-67.

Lecture 8 – Measuring consumption of non-food non-durable goods

Compulsory

- Deaton, A. and Zaidi, S. (2002). *Guidelines for Constructing Consumption Aggregates for Welfare Analysis*. LSMS Working Paper No. 135. Washington, DC: The World Bank *(p.23-38)*

Suggested

- Deaton, A. , and Grosh., M. (2000), "Consumption." In M. Grosh, and P. Glewwe eds., Designing Household Survey Questionnaires for Developing Countries: Lessons from Ten Years of LSMS Experience. Washington, DC: World Bank.
- Gertler, Paul J., Elaina Rose, and Paul Glewwe. (2000), "Health." In M. Grosh, and P. Glewwe eds., Designing Household Survey Questionnaires for Developing Countries: Lessons from 15 Years of the Living Standards Measurement Study. Washington, D.C.: World Bank
- Heijink, R., Xu, K., Saksena, P., and Evans, D. (2011), Validity and comparability of out-of-pocket health expenditure from household surveys: a review of the literature and current survey instruments. Geneva: World Health Organization, 28.
- Hentschel and Lanjouw (2000), "Household welfare measurement and the pricing of basic services", Journal of International Development, 12: 13-27.
- Lanjouw, P. (2012), "Consumption-Based Measures in Developing Nations. Lessons from Brazil", in Besharov and Couch (eds.), Counting the Poor. New York: Oxford University Press. Ch. 13.
- Lu C, Chin B, Li G, and Murray CJ. (2009) Limitations of methods for measuring out-of-pocket and catastrophic private health expenditures. Bull World Health Organ;87(3):238-44, 244A-244D.
- Oseni, G., Huebler, F., McGee, K., Amankwah, A., Legault, E., and Rakotonarivo, A. (2018), Measuring Household Expenditure on Education: a new guidebook on measurement. LSMS guidebook.
- Xu K, Ravndal F, Evans DB, and Carrin G. (2009), Assessing the reliability of household expenditure data: results of the World Health Survey. Health Policy;91(3):297-305.

Lecture 9 - Durable goods

Compulsory

- Amendola, N. and G. Vecchi (2014), Durable goods and poverty measurement, World Bank Policy Research Working Paper no. 7105.
- Deaton, A. and Zaidi, S. (2002). *Guidelines for Constructing Consumption Aggregates for Welfare Analysis*. LSMS Working Paper No. 135. Washington, DC: The World Bank *(p. 33-35)*

Suggested

- Diewert, W. E. (2004), "Durables and User Costs" in ILO, Consumer Price Index Manual: Theory and Practice, chapter 23, ILO / IMF / OECD / UNECE / Eurostat / World Bank.
- Diewert, W. E. (2009), "Durables and Owner-Occupied Housing in a Consumer Price Index" in W. E. Diewert , J.S. Greenlees and C.R. Hulten (eds.), Price Index Concepts and Measurements, University of Chicago Press.

Lecture 10 - Housing

Compulsory

- Malpezzi, S. (2002). “Housing”. In Grosh, M. and Glewwe, P. (eds.). Designing Household Questionnaires for Developing Countries, Lessons from 15 years of Living Standards Measurement Study, Volume One: World Bank.
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Suggested

- Balcázar, C. F., Ceriani, L. , Olivieri, S. and Ranzani, M. (2017), Rent-Imputation for Welfare Measurement: A Review of Methodologies and Empirical Findings. *Review of Income and Wealth*, 63: 881-898.
- Deaton, A. and Zaidi, S. (2002). *Guidelines for Constructing Consumption Aggregates for Welfare Analysis*. LSMS Working Paper No. 135. Washington, DC: The World Bank *(p. 35-38)*
- Heston, A. and A.O. Nakamura (2009), Questions about the equivalence of market rents and user costs for owner occupied housing, *Journal of Housing Economics*, 18, 273—279
- Ibarra, G. L., Mendiratta, V., and Vishwanath, T. (2017). Rental regulation and its consequences on measures of well-being in the Arab Republic of Egypt. The World Bank.
- Malpezzi, S. (2002). “Housing”. In Grosh, M. and Glewwe, P. (eds.). Designing Household Questionnaires for Developing Countries, Lessons from 15 years of Living Standards Measurement Study, Volume One: World Bank.
- Sirmans, G. S., MacDonald, L., Macpherson, D. A., and Zietz, E. N. (2006). The value of housing characteristics: a meta analysis. The Journal of Real Estate Finance and Economics, 33(3), 215-240.

Lecture 11 – Data validation and diagnostics

Compulsory

- De Waal, T., Pannekoek, J., and Scholtus, S. (2011). Handbook of Statistical Data Editing and Imputation. New York: John Wiley and Sons. (*Ch. 1*)

Suggested

- Barnett, V., and Lewis T. (1994). Outliers in Statistical Data. 3rd edition. J. Wiley and Sons 1994, XVII. 582 pp.
- Dang, H. A., Jolliffe, D., and Carletto, C. (2018). Data Gaps, Data Incomparability, and Data Imputation. Ecineq WP, 456.
- Fellegi, I. P., and Holt, D. (1976). A systematic approach to automatic edit and imputation. Journal of the American Statistical association, 71(353), 17-35.
- Harrison, D. E., and Krauss, S. I. (2002). Interviewer cheating: Implications for research on entrepreneurship in Africa. Journal of Developmental Entrepreneurship, 7(3), 319.
- Judge, G., and Schechter, L. (2009). Detecting problems in survey data using Benford's Law. Journal of Human Resources, 44(1), 1-24.
- Little, R. J., and Rubin, D. B. (2019). Statistical analysis with missing data (Vol. 793). Wiley. *(ch. 1)*

Lecture 12 – Outlier detection and treatment

Compulsory

- Barnett, V., and Lewis T. (1994). *Outliers in Statistical Data*. 3rd edition. J. Wiley and Sons. *(Ch. 1 and 2.)*

Suggested

- Alvarez, E., Garcıa-Fernández, R. M., Blanco-Encomienda, F. J., and Munoz, J. F. (2014). The effect of outliers on the economic and social survey on income and living conditions. World Acad. Sci., Eng. Technol., Int. J. Soc., Behav., Educ., Econ., Bus. Ind. Eng, 8, 3276-3280.
- Cowell, F. A., and Flachaire, E. (2007). Income distribution and inequality measurement: The problem of extreme values. *Journal of Econometrics*, 141(2), 1044-1072.
- Cowell, F., and Victoria-Feser, M. (1996). Robustness Properties of Inequality Measures. *Econometrica*, 64(1), 77-101
- Cowell, F. A., and Victoria-Feser, M. P. (1996). Poverty measurement with contaminated data: A robust approach. European Economic Review, 40(9), 1761-1771.
- Deaton, A., and Tarozzi, A. (2000). *Prices and poverty in India*. Princeton, July.
- Dupriez, O. (2007). Building a household consumption database for the calculation of poverty PPPs. Technical note. Available at: http://go. worldbank. org/4YG7I5RGT0.
- Grubbs, F. E. (1969). Procedures for detecting outlying observations in samples. Technometrics, 11(1), 1-21.
- Hlasny, V., and Verme, P. (2018). Top Incomes and Inequality Measurement: A Comparative Analysis of Correction Methods Using the EU SILC Data. Econometrics, 6(2), 30.
- OECD (2013). OECD Guidelines for Micro Statistics on Household Wealth. (Ch. 9)
- Rousseeuw, P. J., and Croux, C. (1993). Alternatives to the median absolute deviation. *Journal of the American Statistical Association*, 88(424), 1273-1283.

Lecture 13 – Measuring inequality

Compulsory

- Cowell, F. (2011). *Measuring inequality*. Oxford University Press. *(ch. 1 and 2)*

Suggested

- Atkinson, A. B. (1970). On the measurement of inequality. *Journal of economic theory*, 2(3), 244-263.
- Cowell, F.A., Jenkins, S.P., Litchfield, J. (1996): The Changing Shape of the U.K. Income Distribution: Kernel Density Estimates. In: Hills, J. (Ed.): New Inequalities. The Changing Distribution of Income and Wealth in the United Kingdom. Cambridge University Press, Cambridge
- Farris, F. A. (2010). The Gini index and measures of inequality. The American Mathematical Monthly, 117(10), 851-864.
- Haughton and Khandker (2009). Handbook on Poverty and Inequality *(Ch. 6)*.
- Pyatt, G. (1976). On the interpretation and disaggregation of Gini coefficients. The Economic Journal, 86(342), 243-255.
- Shorrocks, A. F. (1980). The class of additively decomposable inequality measures. Econometrica: Journal of the Econometric Society, 613-625.

Lecture 14 – Measuring Poverty

Compulsory

- Ravallion M. (2016). *The Economics of Poverty: History, Measurement, and Policy*. Oxford University Press. *(Ch. 3.1-3.2, 4, 5.1-5.3)*.

Suggested

- Atkinson T., WBG (2017). Monitoring Global Poverty, Report of the Commission on Global Poverty
- Deaton, A. (1997). The Analysis of Household Surveys: A Microeconomic Approach to Development Policy. Washington, D.C.: World Bank. *(Sections 3.1 and 3.2)*
- Deaton, A. and S. Zaidi (2002). Guidelines for Constructing Consumption Aggregates for Welfare Analysis. Living Standards Measurement Study Working Paper N. 135. The World Bank, Washington, DC.
- Foster, J., J. Greer, and E. Thorbecke (1984). A Class of Decomposable Poverty Measures. *Econometrica*, 52, 3: 761–65.
- Haughton and Khandker (2009). Handbook on Poverty and Inequality, *(Ch. 2-4)*
- Lipton, Michael and Ravallion, Martin (1995). "Poverty and policy," Handbook of Development Economics,in: Hollis Chenery and T.N. Srinivasan (ed.), Handbook of Development Economics, edition 1, volume 3, chapter 41, pages 2551-2657 Elsevier.
- Ravallion M. (1994). Poverty Comparisons.
- Ravallion M. (2008) Poverty Lines. In: Durlauf S.N., Blume L.E. (eds) The New Palgrave Dictionary of Economics. Palgrave Macmillan, London
- Ravallion, M. and B. Bidani (1994). How Robust is a Poverty Profile?, World Bank Economic Review, 8: 75-102.
- Sen, A. (1976). Poverty: An Ordinal Approach to Measurement, *Econometrica*, 44(2): 219-31.
- Zheng, B. (1997). Aggregate Poverty Measures, *Journal of Economic Surveys*, 11(2): 123-62.

Lecture 15 - Describing data

Compulsory

- Glewwe, P., and Levin, M. (2005). Presenting simple descriptive statistics from household survey data. In UN, Household Sample Surveys in Developing and Transition Countries. Studies in Methods Series F No. 96
- Schwabish, J. A. (2014). An economist's guide to visualizing data. Journal of Economic Perspectives, 28(1), 209-34.

Suggested

- UNECE (2009). Making Data Meaningful, Part 1: A Guide to writing stories about numbers. United Nations, Geneva.
- UNECE (2009). Making Data Meaningful, Part 2: A Guide to presenting statistics. United Nations, Geneva.