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Measurement and analysis of capital, productivity and economic growth

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References

- Abramovitz, M (1986), Catching up, forging ahead, and falling behind, *Journal of Economic History*, 46 (2), 385-406.
- Abramovitz, M (1993), The Search for the sources of growth: Areas of ignorance, old and new, *The Journal of Economic History*, 53 (2), 217-243.
- Abu-Qarn A. S., and S. Abu-Bader (2007), Sources of growth revisited: Evidence from selected MENA countries, *World Development*, 35 (5), 752–771.
- Acemoglu, D., and J. Ventura (2002), The world income distribution, *The Quarterly Journal of Economics*, May, 659-694
- Acemoglu, D., S. Johnson and J. A. Robinson (2001), The colonial origins of comparative development: An empirical investigation, *American Economic Review*, 91(5), 1369-1401.
- Acemoglu, D., S. Johnson., J. A. Robinson and Y. Thaicharoen (2003), Institutional causes, macroeconomic symptoms: volatility, crises and growth, *Journal of Monetary Economics*, 50, 49–123.
- Aghion, P and P. Howitt (1992), A model of growth through creative destruction, *Econometrica*, 60(2), 323-51.
- Aghion, P and P. Howitt (2007), Capital, innovation, and growth accounting, *Oxford Review of Economic Policy*, 23 (1), 79–93.
- Aghion, P. and P. Howitt (1998), *Endogenous Growth Theory*, Cambridge, MA. MIT Press
- Allen, R.C (2005), Capital accumulation, technological change, and the distribution of income during the British industrial revolution, *Economics Series Working Papers 239*, University of Oxford, Department of Economics.
- Asplund, M (2000), What fraction of a capital investment is sunk costs?, *Journal of Industrial Economics*, 48(3), 287-304.
- Bahk, B-H and M. Gort (1993), Learning by doing in new plants, *Journal of Political Economy* 101(4), 561-583.
- Baily, M (1981), Productivity and the services of capital and labor, *Brookings Papers on Economic Activity*, 1, 1-50.
- Balakrishnan P and M. Parameswaran (2007), Understanding economic growth in India: A prerequisite, *Economic and Political Weekly*, July 14.
- Balakrishnan P., M. Parameswaran., K. Pushpangadan and M. Suresh Babu (2006), Liberalization, market power, and productivity growth in Indian industry, *The Journal of Policy Reform*, 9 (1), 55–73.
- Baldwin, J and W. Gu (2007) Multifactor productivity in Canada: An evaluation of alternative methods of estimating capital services, *Canadian Productivity Review*.
- Baldwin, J., G. Gellatly., M. Tanguay and A. Patry (2005), Estimating depreciation rates for the productivity accounts, *Statistics Canada*.
- Balk, B. M (1998), *Industrial Price, Quantity, and Productivity Indices: The Micro-Economic Theory and an Application*, Boston, Kluwer Academic Publishers.
- Balk, B. M (2003), The residual: On monitoring and benchmarking firms, industries, and economies with respect to productivity, *Journal of Productivity Analysis*, 20, 5-47.
- Balk, B. M (2007), *Measuring Productivity Change without Neoclassical Assumptions: A Conceptual Analysis*, RSM Erasmus University, Rotterdam.
- Balk, B. M and E. Hoogenboom-Spijker (2003), The measurement and decomposition of productivity change: Exercises on the Netherlands manufacturing industry, Discussion paper 03001, *Statistics Netherlands*, Voorburg.

- Banerjee, A. V and Duflo, E (2005), Growth theory through the lens of development economics, in: Aghion, P and Durlauf, S (ed.), *Handbook of Economic Growth*, edition 1, volume 1, chapter 7, 473-552.
- Bardhan, P and R. Priale (1996), Endogenous growth theory in a vintage capital model, *Working Paper C96-069*, Center for International and Development Economics Research (CIDER).
- Barro, R. J (1996), Democracy and growth, *Journal of Economic Growth*, 1(1), 1-27.
- Barro, R. J (1997), *Determinants of Economic Growth: A Cross-Country Empirical Study*, Cambridge MA: MIT Press.
- Barro, R. J and J-W. Lee (2001), International data on educational attainment: Updates and implications, *Oxford Economic Papers*, 53(3), 541-63.
- Barro, R. J and X. Sala-i-Martin (1995), *Economic Growth*, New York, McGraw-Hill.
- Barro, R. J. (1999), Notes on growth accounting, *Journal of Economic Growth*, 4(2), 119-137.
- Basu, S., J.G. Fernald., N. Oulton and S. Srinivasan (2003), The case of the missing productivity growth: or, does information technology explain why productivity accelerated in the United States but not the United Kingdom? *NBER Working Paper 10010*.
- Beck, T., R. Levine and N. Loayza (2000), Finance and the sources of growth, *Journal of Financial Economics*, 58, 261-300.
- Becker, G. S (1964), *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*, Chicago, University of Chicago Press.
- Bekker, P.C.F (1991), *A Lifetime Distribution Model of Depreciable and Reproducible Capital Assets*, University of Amsterdam.
- Benhabib, J and A. Rustichini (1993), A vintage capital model of investment and growth: theory and evidence: in R. Becker., M. Boldrin., R. Jones and W.L. Thomson (eds.), *General Equilibrium, Growth and Trade. II. The Legacy of Lionel W. McKenzie*, New York, Academic Press.
- Benhabib, J and M.M. Spiegel (1994), The role of human capital in economic development: Evidence from aggregate cross-country data, *Journal of Monetary Economics*, 34 (2), 143-173.
- Benhabib, J and M.M. Spiegel (2003), Human capital and technology diffusion, *FRBSF Working Paper 2003-02*.
- Bergoeing, R., P. J. Kehoe., T. J. Kehoe and R. Soto (2002), Policy-driven productivity in Chile and Mexico in the 1980's and 1990's, *The American Economic Review*, 92 (2), 16-21.
- Berndt, E.R (1990), Comments on Hulten: in Berndt, E.R and J. Triplett (eds), *Fifty Years of Economic Measurement*, NBER.
- Berndt, E.R (1991), *The Practice of Econometrics: Classic and Contemporary*, Reading, MA, Addison-Wesley,
- Berndt, E.R and D.M. Hesse (1986), Measuring and assessing capacity utilization in the manufacturing sectors of nine OECD countries, *European Economic Review*, 30, 961-89.
- Berndt, E.R and M.A. Fuss (1986), Productivity measurement with adjustments for variations in capacity utilization and other forms of temporary equilibrium, *Journal of Econometrics*, 33, 7-29.
- Blades, D (1993), Comparing capital stocks: in Szirmai, A., B. van Ark and D. Pilat (eds), *Explaining Economic Growth: Essays in Honour of Angus Maddison*, Amsterdam, North Holland, 399-412.
- Blades, D (2001), *Manual on Capital Stock Statistics*, draft, Paris: OECD.
- Bliss, C.J (1970), Heterogeneous capital, the production function and the theory of distribution: Comment, *Review of Economic Studies*, 37(3), 437-38.

- Boddy, M and M. Gort (1971), The substitution of capital for capital, *Review of Economics and Statistics*, 53(2), 179-188.
- Bonde, K and H.S. Sørensen (2006), Taxes and the rate of return in user cost expressions, *Paper Presented at the 29th General Conference of The International Association for Research in Income and Wealth*, Joensuu, Finland.
- Bosworth, B and S. M. Collins (2008), Accounting for growth: Comparing China and India, *The Journal of Economic Perspectives*, 22 (1), 45-66..
- Bosworth, B., S. M. Collins and A. Virmani (2007), Sources of growth in the Indian economy, *NBER Working Paper 12901*.
- Boucekkine, R and A. Pommeret (2004), Energy saving technical progress and optimal capital stock: the role of embodiment, *Economic Modelling*, 21, 429-444.
- Boucekkine, R., M. Germain and O. Licandro (1997), Replacement echoes in the vintage capital growth model, *Journal of Economic Theory*, 74, 333-348.
- Boucekkine, R., M. Germain, O. Licandro and A. Magnus (1998), Creative destruction, investment volatility, and the average age of capital, *Journal of Economic Growth*, 3, 361-384.
- Boyd, R and P. J. Richerson (1985), *Culture and the Evolutionary Process*, Chicago, University of Chicago Press.
- Brainard, W and J. Tobin (1968), Pitfalls in financial model-building, *American Economic Review*, 58, 99-122.
- Bu, Y (2006), Fixed capital stock depreciation in developing countries: Some evidence from firm level data, *The Journal of Development Studies*, 42 (5), 881-901.
- Bureau of Economic Analysis (2003), *Fixed Assets and Consumer Durable Goods in the United States, 1925-97*, Washington, DC: U.S. Department of Commerce
- Bureau of Labor Statistics (2006), *Overview of Capital Inputs for the BLS Multifactor Productivity Measures*, <http://www.bls.gov/mfp/mprcptl.htm>, accessed in June 2006.
- Burmeister, E (2000), The capital theory controversy: in Kurz, H.D (eds), *Critical Essays on Piero Sraffa's Legacy in Economics* Cambridge: Cambridge University Press.
- Caballero, R, J and M.L. Hammour (1996), On the timing and efficiency of creative destruction, *The Quarterly Journal of Economics*, 111 (3), 805-852.
- Caselli, F (2005), Accounting for cross-country income differences: in Aghion, P and S. Durlauf (eds.), *Handbook of Economic Growth*, 1A, North Holland, Elsevier.
- Caselli, F and W.J Coleman II (2001), Cross-country technology diffusion: The case of computers, *American Economic Review*, 91(2): 328-335.
- Cefis, E and O. Marsili (2005), A matter of life and death: innovation and firm survival, *Industrial and Corporate Change*, 14(6), 1167-1192.
- Chirinko, R.S (1993), Business fixed investment spending: modeling strategies, empirical results and policy implications, *Journal of Economic Literature*, 31, 1875-1911.
- Christenson, L.R and D.W. Jorgenson (1969), The measurement of US real capital input, 1929-1967, *Review of Income and Wealth*, 15(4), 293-320.
- Clapham, J. C. R (1957), Economic life of equipment, *Operations Research*, 8 (4), 181-190.
- Clark, G (2007), *A Farewell to Alms: A Brief Economic History of the World*, Princeton, Princeton University Press.
- Cockburn, I and M. Frank (1992), Market conditions and retirement of physical capital: evidence from oil tankers, *NBER Working Papers 4194*.

- Cohen, A.J and G. C. Harcourt (2003), Whatever happened to the Cambridge capital theory controversies?, *Journal of Economic Perspectives*, 17 (1), 199–214.
- Cohen, W. M and D.A. Levinthal (1989), Innovation and learning: the two faces of R&D, *The economic journal*, 99(397), 569-96.
- Collins, S. M. and B. P. Bosworth (1996), Economic growth in East Asia: Accumulation versus assimilation, *Brookings Papers on Economic Activity*, 2, 135–191.
- Comin, D and Hobijn, B (2004), Cross-country technology adoption: making the theories face the facts, *Journal of Monetary Economics*, 51(1), 39-83.
- Cooley, T.F., J. Greenwood and M. Yorukoglu (1997), The replacement problem, *Journal of Monetary Economics*, 40, 457-499.
- Cooper, R and J. Haltiwanger (1993), The aggregate implications of machine replacement: theory and evidence, *American Economic Review*, 83(3), 360-82.
- Cooper, R., J. Haltiwanger and L. Power (1999), Machine replacement and the business cycle: lumps and bumps, *American Economic Review*, 89(4), 921-946.
- Corrado, C., C. Hulten and D. Sichel (2006), Intangible capital and economic growth, *NBER Working Paper 11948*.
- Cramer, J. S (1958), The depreciation and mortality of motor-cars, *Journal of the Royal Statistical Society*, 121(1), 18-59.
- Cummins, J.G and G.L. Violante (2002), Investment-specific technical change in the US (1947-2000): measurement and macroeconomic consequences, *Review of Economic Dynamics*, 5(2), 243-284.
- Cummins, J.G., K.A. Hassett and R.G. Hubbard (1996), Tax reforms and investment: A cross-country comparison, *Journal of Public Economics*, 62(1-2), 237-273.
- Das, S (1992), A micro-econometric model of capital utilization and retirement: the case of the U.S. cement industry, *Review of Economic Studies*, 59 (199), 277-298.
- De Long, J. B and L.H. Summers (1991), Equipment investment and economic growth, *The Quarterly Journal of Economics*, 106 (2), 445-502.
- Dekle, R (2001), A note on growth accounting with vintage capital, *Economics Letters*, 72 (2), 263-267.
- Denison, E.F (1964), Measuring the contribution of education (and the residual) to economic growth: in *The Residual Factor And Economic Growth*, study group in the economics of education, Paris OECD.
- Denison, E.F (1967), *Why Growth Rates Differ*, Washington, D.C, The Brookings Institution.
- Denison, E.F (1969), Some major issues in productivity analysis: An examination of estimates of Jorgenson and Grilliches, *Survey of Current Business*, 49(2), 1-27.
- Denison, E.F (1980), The contribution of capital to economic growth, *The American Economic Review*, 70 (2), 220-224.
- Denison, E.F (1985), *Trends in American Economic Growth, 1929-1982*, Washington, D.C.: Brookings Institution.
- Devereux, M.P and R. Griffith (2003), Evaluating tax policy for location decisions, *International Tax and Public Finance*, 10, 107-126.
- Devereux, M.P., R. Griffith and A. Klemm (2002), Corporate income tax reforms and international tax competition, *Economic Policy*, 17(35), 450-95.
- Diamond, J (1997), *Guns, Germs, and Steel: The Fates of Human Societies*, New York, W. W. Norton.
- Diewert, E (1980), Aggregation problems in the measurement of capital, in Usher, D (eds.), *The Measurement of Capital*, Chicago, The University of Chicago Press.
- Diewert, W.E (2001), Measuring the price and quantity as capital services under alternative assumptions, *Discussion Paper 01-24*, Department of Economics, The University of British Columbia.

- Diewert, W.E., A. Harrison and P. Schreyer (2005), Cost of capital services in the national accounts, *Paper presented at the 4th Ottawa Productivity Workshop*, Statistics Canada, Ottawa.
- Diewert, W.E (1976), Exact and superlative index numbers, *Journal of Econometrics*, 4, 115-145.
- Dixit, A.K and R.S. Pindyck (1994), *Investment under Uncertainty*, Princeton, N.J., Princeton University Press.
- Doms M. E., W. E. Dunn., S. D. Oliner and D. E. Sichel (2004), How fast do personal computers depreciate? Concepts and new estimates, *NBER Working Paper 10521*
- Doms M.E and T. Dunne (1998), Capital Adjustment Patterns in Manufacturing Plants, *Review of Economic Dynamics*, 1(2), 409-429.
- Driver, C (1990), The effects of accelerated capital scrapping: one-off or ongoing?, *International Review of Applied Economics*, 4 (2), 199 – 208.
- Durlauf, S.N., A. Kourtellos and C. Tan (2008), Are any growth theories robust? *The economic Journal*, 118(527), 329-346.
- Easterly, W (2005), National policies and economic growth: A reappraisal: in Aghion, P and Durlauf, S (eds.) *Handbook of Economic Growth*, , chapter 15, 1015-1059.
- Easterly, W and R. Levine (2001), It's not factor accumulation: stylized facts and growth models, *The World Bank Economic Review*, 15(2), 177-219.
- Easterly, W and R. Levine (2003), Tropics, germs, and crops: how endowments influence economic development, *Journal of Monetary Economics*, 50(1), 3–39.
- Eilon, S., J. R. King and D. E. Hutchinson (1966), A study in equipment replacement, *Operations Research*, 17 (1), 59-71.
- Eisner R and M.I Nadiri (1968), Investment behaviour and neo-classical theory, *The review of Economics and Statistics*, 50(3), 369-382.
- Eisner, R (1972), Components of capital expenditures: replacement and modernization versus expansion, *The Review of Economics and Statistics*, 54 (3), 297-305.
- Englander, A.S. and A. Gurney (1994), Medium-term determinants of OECD productivity, *OECD Economic Studies*, 22, 49-109.
- Erumban A.A and S. de Jong (2006), Cross country differences in ICT adoption: a consequence of culture? *Journal of World Business*, 41(4), 302-314.
- Erumban, A.A (2001), Utilisation of optimal capacity in Indian manufacturing, 1974-96, *Applied Economics Letters*, 8, 623-28.
- Erumban, A.A (2005), Economic reforms and industrial performance: an analysis of capacity utilization in Indian manufacturing, *Indian Journal of Economics and Business*, 4(2), 305-223.
- Erumban, A.A (2008), Lifetimes of machinery and equipment: evidence from Dutch manufacturing, *Review of Income and Wealth*, 54(2), 237-268.
- Erumban, A.A (2008), Rental prices, rates of return, capital aggregation and productivity: evidence from EU and US, *CESifo Economic Studies*, 54(3), 499-533.
- Fang, H (2001), Social culture and economic performance, *The American Economic Review*, 91 (4), 924-937.
- Feenstra, R., A. Heston., M.P.Timmer and H. Deng (2008), Estimating real production and expenditures across nations: a proposal for improving the Penn World Tables, *Review of Economics and Statistics*, forthcoming.
- Feldstein, M (1982), Inflation, tax rules and investment: some econometric evidence, *Econometrica*, 50(4), 825-62.

- Feldstein, M.S and D.K. Foot (1971), The other half of gross investment: replacement and modernization expenditures, *The Review of Economics and Statistics*, 53(1), 49-58.
- Feldstein, M.S and M. Rothschild (1974), Towards an economic theory of replacement investment, *Econometrica*, 42 (3), 393-423.
- Fennema, J., W. Letterie and G. Pfann (2006), The timing of investment episodes in the Netherlands, *De Economist*, 154 (3), 373-388.
- Fife, E and Pereira, F (2002), *Socio-Economic and Cultural Factors Affecting Adoption of Broadband Access: A Cross-Country Analysis*, www.marshall.usc.edu/ctm/publications/FITCE2002.pdf, Accessed in February 2004.
- Foster, C.F (2004), *Capital and Innovation—How Britain Became the First Industrial Nation: A Study of the Warrington, Knutsford, Northwich and Frodsbam Area, 1500-1780*, Northwich, Cheshire, Arley Hall Press.
- Frankel J.A and D. Romer (1999), Does trade cause growth?, *The American Economic Review*, 89 (3), 379-399.
- Fraumeni B. M and D. W. Jorgenson (1980), The role of capital in U.S. economic growth, 1948-76: in von Furstenberg, G. M (eds.), *Capital, Efficiency and Growth*, Cambridge, Ballinger.
- Fraumeni, B.M (1997), The measurement of depreciation in the US national income and product accounts, *Survey of Current Business*, 7-23.
- Freeman, C and L. Soete (2000), *The Economics of Innovation*, Cambridge, the MIT Press.
- Fullerton, D (1999), Marginal effective tax rate: in Cordes, J., R. Ebel and J. Gravelle (eds.), *The Encyclopedia of Taxation and Tax Policy*, Washington, DC: Urban Institute Press.
- Gallup, J., J.D. Sachs and A.D. Mellinger (1999), Geography and economic development, *International Regional Science Review*, 22, 179-232.
- Geert Hofstede's Cultural Dimensions, http://www.geert-hofstede.com/hofstede_dimensions.php, Accessed in February 2004.
- Geroski, P. A (2000), Models of technology diffusion, *Research Policy*, 29(4-5), 603-625.
- Giannini, S and C. Maggiulli (2002), The effective tax rates in the EU commission study on corporate taxation: methodological aspects, main results and policy implications, *CESifo Working Paper No. 666*
- Gittleman, M., T. Raa and E.N. Wolff (2006), The vintage effect in tfp-growth: an analysis of the age structure of capital, *Structural Change and Economic Dynamics*, 17, 306-328
- Goldar, B and A. Kumari (2003), Import liberalization and productivity growth in Indian manufacturing industries in the 1990s, *Developing Economies*, 41(4), 436-60.
- Goldsmith, R.W. (1951): A Perpetual Inventory of National Wealth, *Studies in Income and Wealth XIV*, New York: NBER.
- Gollin, D (2002), Getting income shares right, *Journal of Political Economy*, 110 (2), 458-474.
- Goolsbee, A (1998), The business cycle, financial performance, and the retirement of capital goods, *Review of Economic Dynamics*, 1 (2), 474-96
- Goolsbee, A and D.B. Gross (1997), Estimating adjustment costs with data on heterogeneous capital goods, *NBER Working Paper 6342*.
- Gordon, R.J (2000), Does the "new economy" measure up to the great inventions of the past?, *Journal of Economic Perspectives*, 14(4), 49-74.
- Gort, M and R.A. Wall (1998), Obsolescence, input augmentation, and growth accounting, *European Economic Review*, 42 (9), 1653-65.
- Greene, W (2002), *Econometric Analysis*, Prentice Hall

- Greenwood, J and B. Jovanovic (2001), Accounting for growth: in Hulten, C.R., E.R. Dean and M.J. Harper (eds.), *New Developments in Productivity Analysis*, 179-222, NBER Studies in Income and Wealth, vol. 63. Chicago and London: University of Chicago Press
- Greenwood, J., Z. Hercowitz and P. Krusell (1997), Long-run implications of investment-specific technological change, *American Economic Review*, 87 (3), 342-62.
- Griliches, Z (1957), Hybrid corn: An exploration of the economics of technological change, *Econometrica*, 48, 501-522.
- Griliches, Z (1961), Hedonic price indexes for automobiles: An econometric analysis of quality change, reprinted in Griliches, Z (eds.), (1971) *Price Indexes and Quality Change*, Cambridge (MA): Harvard University Press.
- Griliches, Z (1979), Issues in assessing the contribution of research and development to productivity growth, *Bell Journal of Economics*, 10(1), 92-116.
- Griliches, Z (1992), The search for R&D spillovers, *Scandinavian Journal of Economics*, 94, 29-47.
- Griliches, Z (1994), Productivity, R&D, and the data constraint, *American Economic Review*, 84, 1-23.
- Griliches, Z (1996), The discovery of the residual: a historical note, *Journal of Economic Literature*, 34(3), 1324-1330.
- Grossman, G. M and E. Helpman (1991), Quality ladders in the theory of growth, *The Review of Economic Studies*, 58 (1), 43-61.
- Gudykunst, W.C and S. Ting-Toomey (1988), *Culture and Interpersonal Communication*, Newbury Park, CA, Sage.
- Gust, C and J. Marquez (2002), International comparisons of productivity growth: the role of information technology and regulatory practices, *International Finance Discussion Paper 727*.
- Habakkuk, H. J (1962), *American and British Technology in the Nineteenth Century*, New York: Cambridge Univ. Press.
- Hall, B.H and Khan, B (2003), Adoption of new technology: in Jones, D.C (eds.), *New Economy Handbook*, San Diego, Academic Press.
- Hall, B.H., J. Mairesse and B. Mulkay (1998), Firm level investment in france and the united states: an exploration of what we have learned in twenty years, *Economics Working Papers 98-261*, University of California at Berkeley.
- Hall, E. T (1976), *Beyond culture*, Garden City, New York, Anchor Press.
- Hall, R and C. Jones (1999), Why do some countries produce so much more output per worker than others? *Quarterly Journal of Economics*, 114(1), 84-116.
- Hall, R and D.W. Jorgenson (1967), Tax policy and investment behavior, *American Economic Review*, 57(3), 391-414.
- Hall, R. E and D. W. Jorgenson (1971), Application of the theory of optimum capital accumulation: in Fromm G (eds.), *Tax Incentives and Capital Spending*, Washington, D.C, The Brookings Institution.
- Hampden-Turner, C and F. Trompenaars (1997), Response to Geert Hofstede, *International Journal of Intercultural Relations*, 21, 149-159.
- Hancock, D (1991), *A Theory of Production for the Financial Firm*, Norwell, Massachusetts, Kluwer Academic Publishers
- Harberger, A (1978), Perspectives on capital and technology in less developed countries: in Artis, M and A. Nobay (eds.), *Contemporary Economic Analysis*, Croom Helm, London.
- Harcourt, G.C (1972), *Some Cambridge Controversies in the Theory of Capital*. Cambridge: Cambridge University Press.
- Harcourt, G.C and N.F. Laing (1971), *Capital and Growth*, Harmondsworth, UK, Penguin.

- Harper, M.J., E.R Berndt and D.O, Wood (1989), Rates of return and capital aggregation using alternative rental prices, in Jorgenson, D.W and R. Landau (eds.), *Technology and Capital Formation*, Cambridge, MIT Press.
- Hausmann, R., L. Pritchett and D. Rodrik (2005), Growth accelerations, *Journal of Economic Growth*, 10, 303–329.
- Hendricks, L (2000), Equipment investment and growth in developing countries”, *Journal of Development Economics*, 61 (2), 335-64.
- Henrich, J (2000), Does culture matter in economic behavior? Ultimatum game bargaining among the Machiguenga of the Peruvian Amazon, *The American Economic Review*, 90, (4), 973-979.
- Hercowitz, Z (1998), The 'embodiment' controversy: A review essay, *Journal of Monetary Economics*, 41 (1), 217-224.
- Herd, R and S. Dougherty (2007), Growth prospects in China and India compared, *The European Journal of Comparative Economics*, 4 (1), 65-89.
- Heston, A (2007), Preliminary physical capital estimates for PWT, presented at the Workshop on *Recent Developments in International Comparisons of Output and Productivity*, April 22-23, 2007, Groningen.
- Heston, A., R. Summers and B. Aten (2002), *Penn World Table Version 6.1*, Philadelphia, University of Pennsylvania, Center for International Comparisons of Production, Income and Prices.
- Heston, A., R. Summers and B. Aten (2006), *Penn World Table Version 6.2*, Philadelphia, University of Pennsylvania, Center for International Comparisons of Production, Income and Prices.
- Hicks, J (1974), Capital controversies: ancient and modern, *American Economic Review*, 64 (2), 307-316.
- Hofman, A.A (2001), Long run economic development in Latin America in a comparative perspective: Proximate and ultimate causes, Economic Commission for Latin America and the Caribbean, *Macroeconomía del desarrollo series*, No. 08
- Hofstede, G (1984), *Culture's Consequences: International Differences in Work Related Values*, London, Sage.
- Hofstede, G (1991), *Cultures and Organizations*, Berkshire: McGraw-Hill Book Company Europe.
- Hofstede, G (2001), *Culture's Consequences : Comparing Values, Behaviors, Institutions, and Organizations Across Nations*. Sage Publications.
- Holz, C.A (2006), China's reform period economic growth: how reliable are Angus Maddison's estimates? *Review of Income and Wealth*, 52 (1), 85-119.
- Hornstein, A and P. Krusell (1996), Can technology improvements cause productivity slowdowns?: in Bernanke, B and J. Rotemberg (eds.), *NBER Macroeconomics Annual*, Cambridge MA: MIT Press, 209-259
- Howitt, P (2000), Endogenous growth and cross-country income differences, *American Economic Review*, 90(4), 829-846.
- Howitt, P and P. Aghion (1998), Capital accumulation and innovation as complementary factors in long-run growth, *Journal of Economic Growth*, 3(2), 111-30.
- Howitt, P. (1998), Measurement, obsolescence and general purpose technologies: in Helpman (eds.), *General Purpose Technology and Economic Growth*, MIT Press.
- Hristos, D and U. Mehmet Ali (2008), Democracy and economic growth: a meta-analysis, *American Journal of Political Science*, 52 (1), 61-83.
- Hsieh, C-T (2002), What explains the industrial revolution in east Asia? Evidence from the factor markets, *American Economic Review*, 92(3), 502-526.
- Hubbard, R.G (1998), Capital-market imperfections and investment, *Journal of Economic Literature*, 36 (1), 193-225.

- Hulten, C. R (1981), eds., *Depreciation, Inflation, and the Taxation of Income from Capital*, Washington, the Urban Institute Press.
- Hulten, C. R and F. C. Wykoff. (1981), The measurement of economic depreciation: in Hulten, C (eds.), *Depreciation, Inflation, and the Taxation of Income from Capital*, Washington, the Urban Institute Press, 81–125.
- Hulten, C. R and F.C. Wykoff (1996), Issues in the measurement of economic depreciation: introductory remarks, *Economic Inquiry*, January 1996, 34 (1) 10-23.
- Hulten, C.R (1986), Productivity change, capacity utilization, and the sources of efficiency growth, *Journal of Econometrics*, 33, 31-50.
- Hulten, C.R (1990), The measurement of capital: in Berndt, E.R and J. Triplett (eds.), *Fifty Years of Economic Measurement*, Chicago, NBER.
- Hulten, C.R (1992), Growth accounting when technical change is embodied in capital, *American Economic Review*, 82, 964–980.
- Hulten, C.R (2000), Total factor productivity: a short biography, *NBER working paper 7471*.
- Hwang, J.C (2003), Forms and rates of economic and physical depreciation by type of assets in Canadian industries, *Journal of Economic and Social Measurement*, 28 (3), 89-108.
- IMF (2007), *International Financial Statistics*, International Monetary Fund.
- Inklaar, R., M. O'Mahony and M.P. Timmer (2005) ICT and Europe's productivity performance: industry-level growth account comparisons with the United States, *Review of Income and Wealth*, 51 (4), 505-536.
- Inklaar, R., M.P. Timmer and B. van Ark (2008), Market services productivity across Europe and the US, *Economic Policy*, 25(33), 139-194.
- Islam, N (1995), Growth empirics: a panel data approach, *Quarterly Journal of Economics*, 1127-1170.
- Jackson, W.A (2005), Capabilities, culture and social structure, *Review of Social Economy*, 63 (1), 101-124.
- Jaumotte, F and I. Tytell (2007), The globalization of labor, Chapter 5, *IMF World Economic Outlook*, Washington, International Monetary Fund, 161-192.
- Jerzmanowski, M (2007), Total factor productivity differences: Appropriate technology vs. efficiency, *European Economic Review*, 51, 2080–2110
- Johansen, L (1959), Substitution versus fixed production coefficients in the theory of economic growth: a synthesis, *Econometrica* 27, 157-76.
- Johnson, J.P and T. Lenartowicz (1998), Culture, freedom and economic growth: Do cultural values explain economic growth? *Journal of World Business*, 33, 332-356.
- Jones, B.F and B.A. Olken (2008), The anatomy of start-stop growth, *Review of Economics and Statistics*, forthcoming, August.
- Jong-A-Pin, R and J. De Haan (2007), Growth accelerations and regime changes: a correction, *Research Report 07007*, University of Groningen, Research Institute SOM.
- Jorgenson, D. W., F. M. Gollop and B.M. Fraumeni (1987), *Productivity and U.S. Economic Growth*. Cambridge, Mass., Harvard University Press.
- Jorgenson, D.W (1963), Capital theory and investment behavior, *American Economic Review*, 53 (2), 247-259.
- Jorgenson, D.W (1967), The theory of investment behavior: in Ferber, R. (eds.), *Determinants of Investment Behavior*, New York, Columbia University Press, 129-56.
- Jorgenson, D.W (1974), The economic theory of replacement and depreciation: in Sellekaerts, W (eds.) *Econometrics and Economic Theory: Essays in Honour of Jan Tinbergen*, New York: International Arts and Sciences Press.

- Jorgenson, D.W (1989), Capital as a factor of production: in Jorgenson, D.W and R. Landau (eds.), *Technology and Capital Formation*, Cambridge, MIT Press, 1-35.
- Jorgenson, D.W (1996), Empirical studies of depreciation, *Economic Inquiry*, 34 (1), 24-42.
- Jorgenson, D.W (2001), Information technology and the U.S. economy, *American Economic Review*, 91(1), 1-32.
- Jorgenson, D.W and C.D. Siebert (1968), A comparison of alternative theories of corporate investment behavior, *American Economic Review*, 58 (4), 681-712.
- Jorgenson, D.W and K. Stiroh (2000), Raising the speed limit: U.S. economic growth in the information age, *Brookings papers on economic activity*, 1,126-235.
- Jorgenson, D.W and K. Vu (2005), Information technology and the world economy, *Scandinavian Journal of Economics*, 107(4), 631–650.
- Jorgenson, D.W and K-Y. Yun (1991), *Tax Reform and the Cost of Capital*, Oxford, Clarendon Press.
- Jorgenson, D.W and M.A. Sullivan (1981), Inflation and corporate capital recovery: in Hulten, C.R (eds.), *Depreciation, Inflation, and the Taxation of Income from Capital*, Washington, DC: The Urban Institute Press, 171-238.
- Jorgenson, D.W and Z. Griliches (1967), The explanation of productivity change, *Review of Economic Studies*, 34, 249-283.
- Jorgenson, D.W and Z. Griliches (1972), Issues in growth accounting: A reply to Edward F. Denison, *Survey of Current Business*, 65-93.
- Jorgenson, D.W., M.S. Ho and K.J. Stiroh (2005), *Information Technology and the American Growth Resurgence*, Cambridge, The MIT Press.
- Joshi, V and I.M.D. Little (1996), *India's Economic Reforms 1991-2001*, New Delhi, Oxford University Press.
- Kendrick, J.W (1980), Productivity trends in the United States: in Maital, S and N.M Meltz (eds.), *Lagging Productivity Growth*, Cambridge, Ballinger Publishing Co., 9–31.
- King, M (1974), Dividend behaviour and the theory of the firm, *Economica*, 41, 25-34.
- King, R.G and R. Levine (1994), Capital fundamentalism, economic development, and economic growth, *Carnegie-Rochester Conference Series on Public Policy*, 40, 259-292
- Klenow, P.J and A. Rodriguez-Clare (1997), The neoclassical revival in growth economics: has it gone too far? *NBER Macroeconomics Annual*, 73-103.
- Klenow, P.J and A. Rodriguez-Clare (2005), Externalities and growth: in Aghion, P and S. Durlauf (eds.), *Handbook of Economic Growth*, edition 1, 1, chapter 11, 817-861.
- Klomp, L and G. van Leeuwen (2001), Linking innovation and firm performance: a new approach, *International Journal of the Economics of Business*, 8, 343-364.
- Koumanakos, P and J.C. Hwang (1993), The forms and rates of economic depreciation: the Canadian experience, *Working Paper*, Ottawa, Statistics Canada.
- Krugman, P (1994), The myth of Asia's miracle, *Foreign Affairs* 73(6), 62–78.
- Lach, S and M. Schankerman (1989), Dynamics of R & D and investment in the scientific sector, *Journal of Political Economy*, 97 (4), 880-904.
- Lach, S and R. Rob (1992), R&D, investment and industry dynamics, *NBER Working Paper No. W4060*
- Lambe, T.A (1974), The decision to repair or scrap a machine, *Operational Research Quarterly*, 25(1), 99-110
- Landes D.S (1998), *The Wealth and Poverty of Nations: Why Some are so Rich and Some so Poor*, W.W. Norton, New York.

- Lee, B.L., D.S.P. Rao and W. Shepherd (2007), Comparisons of real output and productivity of Chinese and Indian manufacturing, 1980–2002, *Journal of Development Economics*, 84 (1), 378–416.
- Lee, J-W (2001), Education for technology readiness: Prospects for developing countries, *Journal of Human Development*, 2, 115–151.
- Lee, J-W and R.J. Barro (2001), International data on educational attainment: Updates and implications, *Oxford Economic Papers*, 53(3), 541–63.
- Lee, S.M and S.J. Peterson (2000), Culture, entrepreneurial orientation, and global competitiveness, *Journal of World Business*, 35(4), 401–416.
- Lee-Barro Data Set: *International data on educational attainment: Updates and implications*, <http://www.cid.harvard.edu/ciddata/Appendix%20Data%20Tables.xls>, Centre for International Development at the Harvard University, Accessed in July 2004.
- Levine, R and D. Renelt (1992), A sensitivity analysis of cross-country growth regressions, *The American Economic Review*, 82 (4), 942–963.
- Lipsev, R.G and K. Carlaw (2000), What does total factor productivity measure? *International Productivity Monitor*, 1, 31–40.
- Los, B and M.P. Timmer (2005), The appropriate technology explanation of productivity growth differentials: An empirical approach, *Journal of Development Economics*, 77, 517– 531.
- Lucas, R.E. Jr (1988), On the mechanics of economic development, *Journal of Monetary Economics*, 22(1), 3–42.
- Lucas, R.E. Jr (1990), Why doesn't capital flow from rich to poor countries?, *American Economic Review*, 80(2), 92–96.
- Lucas, R.E. Jr (2003), The industrial revolution: past and future, *The Region*, Federal Reserve Bank of Minneapolis, 5–20.
- Lucchetti, R and A. Sterlacchini (2001), Factors affecting the adoption of ICTs among SMEs: evidence from an Italian survey, *Quaderni di ricerca n. 155*, Università degli Studi di Ancona
- Maddison, A (1971), *Class Structure and Economic Growth: India and Pakistan since the Moghuls*, New York: W. W. Norton
- Maddison, A (1982), *Phases of Capitalist Development*, Oxford University Press.
- Maddison, A (1987), Growth and slowdown in advanced capitalist countries: techniques of quantitative assessment, *Journal of Economic Literature*, 25(2), 649–698.
- Maddison, A (1991), *Dynamic Forces in Capitalist Development*, Oxford, UK Oxford University Press.
- Maddison, A (1995), *Explaining the Economic Performance of Nations - Essays in Time and Space*, Edward Elgar Ltd.
- Maddison, A (2001), *The World Economy: A Millennial Perspective*, Development Centre Studies, OECD, Paris.
- Maddison, A (2003), *The World Economy: Historical Statistics*, Development Centre Studies, OECD, Paris.
- Maddison, A (2006), Do official statistics exaggerate china's GDP growth? A reply to Carsten Holz, *Review of Income and Wealth*, 52(1), 121–126.
- Mankiw, N.G (1995), The growth of nations, *Brookings Papers on Economic Activity*, 275–310.
- Mankiw, N.G., D. Romer and D.N. Weil (1992), A contribution to the empirics of economic growth, *Quarterly Journal of Economics*, 407–437.
- Mansfield, E (1963), The speed of response of firms to new technologies, *Quarterly Journal of Economics*, 77, 290–311.

- McCloskey, D. N (1981), The Industrial Revolution 1780-1860: a Survey: in Floud, R and D. N. McCloskey (eds.), *The Economic History of Britain Since 1700*, vol. 1, Cambridge, Cambridge University Press.
- McHugh, R and J. Lane (1987), The age of capital, the age of utilized capital, and tests of the embodiment hypothesis, *The Review of Economics and Statistics*, 69(2), 362-367
- McQuinn, K and K. Whelan (2007), Solow (1956) as a model of cross-country growth dynamics, *Oxford Review of Economic Policy*, 23 (1), 45-62.
- McSweeney, B (2002), Hofstede's model of national cultural differences and their consequences: A triumph of faith- A failure of analysis, *Human Relations*, 55, 89-118.
- Meijer E.M and R. Ling (2001), The adoption and use of ICT services in Europe: Potential acceptance of mobile broadband services, *EURESCOM P903*, [www.eurescom.de/~ftproot/web-deliverables/public/P900-series/P903/ ICT_use_ante.pdf](http://www.eurescom.de/~ftproot/web-deliverables/public/P900-series/P903/ICT_use_ante.pdf), Accessed in January 2004.
- Meinen, G.W (1998), Lives of capital goods, *Paper presented at the 2nd meeting of the Canberra Group on Capital Stock Statistics*, OECD, Paris.
- Meinen, G.W., P. Verbiest and P-P. de Wolf (1998), *Perpetual Inventory Method, Service Lives, Discard Patterns and Depreciation Methods*, Canberra Group on Capital Stock Statistics.
- Mudholkar, G.S., D.K. Srivastava and G.D. Kollia (1996), A generalization of the Weibull distribution with applications to the analysis of survival data, *Journal of American Statistical Association*, 91, 1575-1583.
- Mumford, M.D and B. Licuanan (2004), Leading for innovation: Conclusions, issues, and directions, *Leadership Quarterly*, 15: 163-171.
- Musso, P (2004), Productivity slowdown and resurgence. the role of capital obsolescence, *Revue Economique*, 55(6), 1215-1239.
- National Sample Survey (2000), Employment and Unemployment in India, 1999-2000, Key Results, NSS 55th ROUND, *National Sample Survey Organisation, India*.
- Nehru, V and A. Dhareshwar, (1993), A new database on physical capital stock: sources, methodology, and results, *Rivista de Analisis Economico*, 8, 37-59.
- Nelson, R.R (1964), Aggregate production functions and medium-range growth projections, *The American Economic Review*, 54 (5), 575-606.
- Nelson, R.R and H. Pack (1998), The Asian miracle and modern growth theory, *World Bank Policy Research Working Paper 1881*.
- Newman, K (2007), Caste and economic discrimination, *Special symposium, Economic and Political Weekly*, 42 (42), 4121-4153. (with Paul Attewell, Sukhadeo Thorat, Ashwini Deshpande, S. Madheswaran, and Surinder Jodkha), Special issue of the Economic and Political Weekly.
- Nicoletti, G and S. Scarpetta (2003), Regulation, productivity and growth: OECD evidence, *Economic Policy*, 18(36), 9-72
- Niederle, M, and L. Vesterlund (2007), Do women shy away from competition? do men compete too much?, *Quarterly Journal of Economics*, 122 (3), 1067-1101.
- Noelle-Neumann, E (1974), The spiral of silence: A theory of public opinion, *Journal of Communication*, 24, 43- 51.
- Nomura, K (2005), Examination of directly observed discard data in Japan, *KEO Discussion Paper No.99*
- Norris, K.P (1957), The costing of investment decisions, *The Journal of Industrial Economics*, 5(2), 112-123.
- North, D.C (1981), *Structure and Change in Economic History*, New York, Norton.
- North, D.C (1990), *Institutions, Institutional Change and Economic Performance*, New York, Cambridge University Press.

- OECD (2001a), *Measuring Capital: A Manual on the Measurement of Capital Stocks, Consumption of Fixed Capital and Capital Services*, Paris, OECD.
- OECD (2001b), *OECD Productivity Manual :A Guide to the Measurement of Industry-level and Aggregate Productivity Growth*, Paris, OECD.
- Oliner, S.D (1993), Constant-quality price change, depreciation, and retirement of mainframe computers: in Foss, M.F., M.E. Manser, and A.H. Young (eds), *Price Measurements and Their Uses*, National Bureau of Economic Research Studies in Income and Wealth.
- Oliner, S.D (1996), New evidence on the retirement and depreciation of machine tools, *Economic Inquiry*, 34(1), 57-77.
- O'Mahony, M and B. van Ark (2003), eds., *EU Productivity and Competitiveness: An Industry Perspective - Can Europe Resume the Catching-up Process?*, Luxembourg, Office for Official Publications of the European Communities.
- Oulton, N (1990), Labour productivity in UK manufacturing in the 1970s and in the 1980s, *National Institute Economic Review*, 132 (1), 71-91.
- Oulton, N (1995), Depreciation, obsolescence and the role of capital in growth accounting, *Bulletin of Economic Research*, 47(1), 21-33.
- Oulton, N (2007), *Ex post* versus *ex ante* measures of the user cost of capital, *Review of Income and Wealth*, 53(2), 295-317.
- Pack, H (1987), *Productivity, Technology and Industrial Development: A Case Study in Textiles*, Washington D.C, The World Bank.
- Parks, R.W (1977), Determinants of scrapping rates for postwar vintage automobiles, *Econometrica*, 45(5),1099-1115
- Peterson, R.M., C. Dibrell and T.L. Pett (2002), Long- vs. short-term performance perspectives of Western European, Japanese, and U.S. countries: where do they lie? *Journal of World Business*, 37 (4), 245-255.
- Pilat. D (1993), *The Economics of Catch Up— The Experience of Japan and Korea*, Groningen Growth and Development Centre, Monograph Series, No. 2, 1993
- Pindyck, R. S (1993), Irreversibility, uncertainty and investment: in Serven, L and A. Solimano (eds.), *Striving for Growth after Adjustment*, Washington, DC, World Bank, 31–80.
- Pitman, J (1992), *Probability*, Springer-Verlag
- Pohjola, M (2003), The adoption and diffusion of ICT across countries: Patterns and determinants: in Jones, D.C (eds.), *New Economy Handbook*, San Diego, CA, Academic Press.
- Powers, S.G (1988), The role of capital discards in multifactor productivity measurement, *Monthly Labor Review*, 111(6)
- Pritchett, L (1996), Mind your P's and Q's: The cost of public investment is not the value of public capital, *World Bank Policy Research Working Paper 1660*
- Pritchett, L (1997), Divergence, big time, *The Journal of Economic Perspectives*, 11 (3), 3-17.
- Pritchett, L (2000a), Understanding patterns of economic growth: searching for hills among plateaus, mountains, and plains, *The World Bank Economic Review*, 14 (2), 221-50.
- Pritchett, L (2000b), The tyranny of concepts: CUDIE (cumulated, depreciated, investment effort) is not capital, *Journal of Economic Growth*, 5 (4), 361-384
- Quayle, N. J. T (1972), Damaged vehicles - replace or repair? *Operational Research Quarterly* 23 (1), 83-87.
- Rajaiah, B (1989), *Returns to Investment and Efficiency in Public Enterprises in India*, Delhi, Mittal.

- Ravallion, M., S. Chen and P. Sangraula (2007), New evidence on the urbanization of global poverty, *World Bank Policy Research Working Paper 4199*.
- Rebelo, S.T. (1991), Long-run policy analysis and long-run growth, *Journal of Political Economy*, 99(3), 500-521.
- Ricardo, D (1817), *On the Principles of Political Economy and Taxation*, London: John Murray, downloadable at <http://socserv2.socsci.mcmaster.ca/econ/ugcm/3ll3/ricardo/prin/index.html>.
- Rodrik, D and A. Subramanian (2004), Why India can grow at 7 percent a year or more: projections and reflections, *IMF Working Papers 04/118*.
- Rodrik, D., A. Subramanian and F. Trebbi (2002), Institutions rule: the primacy of institutions over geography and integration in economic development, *NBER Working Paper 9305*.
- Rogers, E (1995), *Diffusion of Innovations*, New York, The Free Press.
- Romer, P.M (1986), Increasing returns and long-run growth, *Journal of Political Economy*, 94(5), 1002-37.
- Romer, P.M (1990), Endogenous technological change, *Journal of Political Economy*, 98(5), 71-102.
- Rosenberg, N (1972), Factors affecting diffusion of technology, *Explorations in Economic History*, 10(1), 3-33.
- Rostow, W.W (1960), *The Stages of Economic Growth: A Non-Communist Manifesto*, Cambridge, Cambridge University Press.
- Roth, A.E., V. Prasnikar., M. Okuno-Fujiwara and S. Zamir (1991), Bargaining and market behavior in Jerusalem, Ljubljana, Pittsburgh, and Tokyo: An experimental study, *American Economic Review*, 81(5), 1068 -95.
- Sachs, J. D (2001), Tropical underdevelopment, *NBER Working Paper 8119*.
- Sachs, J. D (2003), Institutions don't rule: direct effects of geography on per capita income, *NBER Working Paper 9490*.
- Sachs, J. D and A. Warner (1995), Economic reform and the process of global integration, *Brookings Papers on Economic Activity*, 26(1), 1-118.
- Sakellaris, P and D.J. Wilson (2004), Quantifying embodied technological change, *Review of Economic Dynamics* 7, 1-26.
- Sakellaris, P and F. Vijselaar (2005), Capital quality improvement and the sources of economic growth in the euro area, *Economic Policy*, 267-306.
- Salter, W.E.G (1960), *Productivity and Technical Change*, Cambridge University Press.
- Schreyer, P (2004), Measuring multi-factor productivity when rates of return are exogenous, *Paper presented at the SSHRC International Conference on Index: Number Theory and the Measurement of Prices and Productivity*, Vancouver, 30th June – 3rd July 2004.
- Schreyer, P., P. Bignon and J. Dupont (2003), OECD capital services estimates: methodology and a first set of results”, *OECD Statistics Working Paper 2003/6*.
- Schreyer, P., W.E. Diewert and A. Harrison (2005), Cost of capital services and the national accounts, *Paper presented at the Fifth Meeting of the Canberra II Group on the Measurement of Non-Financial Assets*, Canberra, March 29-April 1
- Schuette, H.L (1994), Vintage capital, market structure and productivity in an evolutionary model of industry growth, *Journal of Evolutionary Economics*, 4(3), 173-184.
- Schwartz, S.H (1994), Beyond individualism/collectivism: New cultural dimensions of value: in Kim, U., H. C. Triandis., C. Kagitcibasi and G. Yoon (eds.), *Individualism and Collectivism: Theory, Method and Applications*, Thousand Oaks, CA: Sage, 85-119.
- Scott, M.F (1989), *A New View of Economic Growth*, Oxford, Clarendon Press.
- Sen, A (2000), *Development as Freedom*, New York: Alfred A. Knopf.

- Shane, S.A (1993), Cultural influences on national rates of innovation, *Journal of Business Venturing*, 8, 59-73.
- Silverberg, G (1991), Dynamic vintage models with neo-Keynesian features: in Nelson, R.R (eds.), *Technology and Productivity: The Challenge for Economic Policy*, Paris, OECD.
- Sinn, H-W (1991), Taxation and the cost of capital The “old” view, the “new” view and another view, *NBER working paper 3501*.
- Smeets, H.H and N.H.L.van den Hove (1994), Disinvestments, *Statistics Netherlands*, Voorburg.
- Solow R.M (2001), Applying growth theory across countries, *The World Bank Economic Review*, 15(2), 283-288
- Solow R.M (2007), The last 50 years in growth theory and the next 10, *Oxford Review of Economic Policy*, 23 (1), 3–14.
- Solow, R. M (1962), Substitution and fixed proportions in the theory of capital, *The Review of Economic Studies*, 29 (3), 207-218.
- Solow, R.M (1957), Technical change and the aggregate production function, *Review of Economics and Statistics*, 39, 312-320.
- Solow, R.M (1960), Investment and technical progress: in Arrow, K., S. Karlin and P. Suppes (eds.) *Mathematical Methods in the Social Sciences*, Chicago, University of Chicago Press.
- Solow, R.M (1962), Substitution and fixed proportions in the theory of capital, *The Review of Economic Studies*, 29 (3), 207-218.
- Solow, R.M (1987), We'd better watch out, *New York Times Book Review*, July 12, 36.
- Solow, R.M., J. Tobin., C.C. von Weizsäcker and M. Yaari (1966), Neoclassical growth with fixed factor proportions, *The Review of Economic Studies*, 33 (2), 79-115.
- Sorensen, P.B (2007), Can capital income taxes survive? And should they?, *CEsifo Economic Studies*, 53(2), 172–228.
- Statistics Canada (2007), *Depreciation Rates for the Productivity Accounts*, downloadable at <http://dsp-psd.pwgsc.gc.ca/Collection/Statcan/15-206-XIE/15-206-XIE2007005.pdf>
- Stiglitz, J.E (1996), Some lessons from the east Asian miracle, *The World Bank Research Observer*, 11,151-177
- Stoneman, P (2001), Technological diffusion and the financial environment, *Working Paper 2001-03*, University of Warwick.
- Subramanian, A (2007), The evolution of institutions in India and its relationship with economic growth, *Oxford Review of Economic Policy*, 23 (2), 196–220.
- Summers, R and A. Heston (1991), The Penn World Table (Mark 5): an expanded set of international comparisons, 1950-1988, *Quarterly Journal of Economics*, 106(2), 327-68.
- Summers, R and A. Heston (1995), Penn World Tables, version 5.6, June.
- Swan, P.L (1976), Optimum replacement of capital goods with labor-saving technical progress: a comparison of the early new England and British textile firm, *The Journal of Political Economy*, 84 (6), 1293-1303.
- Szirmai, A., B. van Ark and D. Pilat, (1993), *Explaining Economic Growth: Essays in Honour of Angus Maddison*, North-Holland.
- Temple, J (1997), St. Adam and the dragons: Neo-classical economics and the East Asian miracle, *Oxford Development Studies*, 25(3), 279–300.
- Temple, J (1999), The new growth evidence, *Journal of Economic Literature*, 37 (1), 112-156.
- Temple, J (2000), Growth regressions and what the textbooks don't tell you, *Bulletin of Economic Research*, 52(3), 0301-3378.

- Temple, J and L. Wößmann (2006), Dualism and cross-country growth regressions, *Journal of Economic Growth*, 11(3) 187-228.
- Timmer, M.P and B. van Ark (2005), Does information and communication technology drive productivity growth differentials? A comparison of the European Union countries and the United States, *Oxford Economic Papers*, 57(4), 693-716.
- Timmer, M.P., M. O'Mahony and B. van Ark (2008), *The EU KLEMS Growth and Productivity Accounts: An Overview*, University of Groningen and University of Birmingham, an earlier version available in *International Productivity Monitor*, 14, 71-85.
- Timmer, M.P., Ypma, G and B. van Ark (2003), IT in the European Union: Driving productivity divergence?, *GGDC Research Memorandum GD-67*, University of Groningen.
- Tobin, J (1969), A general equilibrium approach to monetary theory, *Journal of Money, Credit and Banking*, 1(1), 15-29.
- Tobin, J (1978), Monetary policies and the economy - the transmission mechanism, *Southern Economic Journal*, 44 (3), 421-31.
- Toivanen, O and P. Stoneman (1998), Dynamics of R&D and investment: UK evidence, *Economics Letters*, 58 (1), 119-126.
- Tresselt, T (2008), Does technological diffusion explain Australia's productivity performance?, *IMF working paper WP/08/4*.
- Triplett, J.E (2004), *Handbook on Hedonic Indexes and Quality Adjustments in Price Indexes: Special Application to Information Technology Products*, OECD Science, Technology and Industry Working Papers 2004/9.
- Trompenaars, F (1993), *Riding the Waves of Culture: Understanding Cultural Diversity in Business*, London, Nicholas Brealey.
- van Ark B., M. O'Mahony and M.P. Timmer (2008), European growth: the end of convergence, *Journal of Economic Perspectives*, forthcoming.
- van Ark, B and M.P. Timmer (2002), Notes and communications: Industry productivity comparisons, *De Economist*, 150(1), 95-109.
- van de Vliert, E., E.S. Kluwer and R. Lynn (2000), Citizens of warmer countries are more competitive and poorer: Culture or chance? *Journal of Economic Psychology*, 21, 143-165.
- van den Bergen., M. de Haan., R. de Heij and M. Horsten (2005), *Measuring capital in the Netherlands*, Std/Naes, 8, OECD
- van Everdingen, Y and E. Waarts (2003), The effect of national culture on the adoption of innovations, *Marketing Letters*, 14(3), 217-232.
- Verbeek, 2004, *A Guide to Modern Econometrics*, Wiley
- Vickery, G and G. Wurzburg (1992), Intangible investment missing pieces in the productivity puzzle, *OECD Observer*, 178, 13-16
- Walker, F.V (1968), Determinants of auto scrappage, *Review of Economic Statistics*, 50, 503-506.
- Wang, X and L. Meng (2001), A reevaluation of China's economic growth, *China Economic Review*, 12 (4) 338-346.
- Wei, S-J (2000), Natural openness and good government, *NBER Working Paper 7765*.
- West, P (1998), The direct observation of asset lives, *Paper for the 2nd meeting of the Canberra group on capital stock statistics, Canberra*.
- Whelan, K (2002), Computers, obsolescence, and productivity, *Review of Economics and Statistics*, 2002, 84 (3), 445-61.
- White, L.J (1971), *The automobile industry since 1945*, Cambridge, Harvard University Press

References

- Wolff, E.N (1991), Capital formation and productivity convergence over the long term, *American Economic Review*, 81 (3), 565-579.
- Wolff, E.N (1996), The productivity slowdown: the culprit at last? follow-up on Hulten and Wolff, *American Economic Review*, 86(5), 1239-1252.
- Woodland, A.D (1975), Substitution of structures, equipment and labor in Canadian production, *International Economic Review*, 16(1), 171-87.
- Woodman, R.W., J.E. Sawyer and R.W. Griffin (1993), Towards a theory of organizational creativity, *Academy of management review*, 18, 293-321.
- World Bank (1993), *The East Asian Miracle: Economic Growth and Public Policy*, Oxford and New York, Oxford University Press.
- World Bank (2006), *World Development Indicators*.
- Young, A (1994), Lessons from the East Asian NICs: A contrarian view, *European Economic Review*, 38(3-4), 964-973.
- Young, A (1995), The tyranny of numbers: confronting the statistical realities of the East Asian growth experience, *Quarterly Journal of Economics*, 110(3), 641-680.
- Young, A (2003), Gold into base metals: productivity growth in the People's Republic of China during the reform period, *Journal of Political Economy*, 111 (6), 1220- 1261.
- Zmud, R.W (1982), Diffusion of modern software practices: influence of centralization and formalization, *Management Science*, 28, 1421-1431.

