Dimitrios Malliaropulos

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| Current positions | <u>Professor</u>, University of Piraeus, Department of Banking and Financial Management <u>Economic Advisor</u>, Bank of Greece |
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| Education | Diplom Sociology, Freie Universitaet Berlin (distinction) Diplom Economics, Freie Universitaet Berlin (distinction) PhD, Freie Universitaet Berlin (summa cum laude) |
| Previous Academic Appointments | Dec. 2001 – 2006: Associate Professor of Macro-Finance, University of Piraeus, Department of Banking and Financial Management |
| | Nov. 1999 – Nov. 2001: Assistant Professor of Financial Econometrics, University of Piraeus, Department of Banking and Financial Management |
| | Sep. 1995 – Dec. 1996: Lecturer in Finance (Tenior), Brunel University, Department of Economics and Finance |
| | Sep. 1994 – Aug. 1995: Senior Lecturer in Economics, London Guildhall University, Department of Economics |
| | Mar. 1993 – Sep. 1994: Lecturer in Economics, London Guildhall University, Department of Economics |
| | Mar. 1994 – May 1994: Visiting Professor, New Economic School, Moscow |
| | Oct. 1985 – Oct. 1990: Research Assistant, Freie Universitaet Berlin, Department of Economics |
| Professional Appointments | Jan. 2025 - present: Economic Advisor, Bank of Greece |
| | Feb. 2013 – Dec. 2024: Chief Economist and Director of Economic Analysis and Research, Bank of Greece |
| | Oct. 2005 – Feb. 2013: Economic Research Consultant, Eurobank EFG |
| | Nov. 1999 – Sep. 2005: Economic Research Consultant, National Bank of Greece |
| | Sep. 1997 – Oct. 1999: Senior Economist, National Bank of Greece |
| | Mar. 1994 – Sep. 1997: Quantitative Research Consultant, INVESCO Asset Management, London |
| | Oct. 1991 – Mar. 1993: Economist, Economic Research Dept., Deutsche Bundesbank, Frankfurt |

| Research Interests | Asset pricing, empirical finance, financial intermediation, international finance, applied macro. |
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| Academic Distinctions | Ernst Reuter Price 1990 for best PhD Thesis. |
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| Member of Committees | 2021-present: International Relations Committee, Eurosystem. |
| | 2021-present: Heads of Research, Eurosystem. |
| | 2013–present: Economic Policy Committee, OECD. |
| | 2013-present: Economic and Development Review Committee for Greece, OECD. |
| | 2005–2013: Investment Committee, Eurobank. |
| | 2000–2013: Economic and Monetary Affairs Committee of the European Banking Federation |
| | 2012–2013: Chair of Economic and Monetary Affairs Committee, European Banking Federation |
| | 2009–2013: Scientific Committee of the Greek Banking Association |
| | 2000: Euro Committee of Greek Banking Association (preparation committee for the launch of the euro) |
| | 2001–2006: Scientific Committee, Foundation of Economic and Industrial Research (IOBE) |
| Editor | 2021–present: Editor of Economic Bulletin, Bank of Greece. |
| | 2000: Editor of "Economic and Financial Bulletin" and "Annual Economic Review" of National Bank of Greece. |
| Publications | Referee Journals |
| | Fiscal Policy with an Informal Sector (with H. Dellas, D. Papageorgiou and E. Vourvachaki), <u>Journal of Economic Dynamics and Control</u> , 2024, vol. 160. <u>https://doi.org/10.1016/j.jedc.2024.104820</u> |
| | Price level differences in the euro area: the case of Greece (with A. Karakitsios, T. Kosma, G. Papadopoulos and P.Petroulas), <u>Bank of Greece Economic Bulletin</u> No 59, June 2024. <u>Economic Bulletin 59 (bankofgreece.gr)</u> |
| | Guaranteeing Trade in a Severe Crisis: Cash Collateral Over Bank Guarantees (with A. Kotidis and M. MacDonald). <u>Open Economies Review</u> , 2023, vol. 34. <u>https://doi.org/10.1007/s11079-023-09725-6</u> |
| | A global monetary policy factor in sovereign bond yields (with P. Migiakis). Journal of Empirical Finance, 2023, vol. 70, pp. 445-465. |

https://doi.org/10.1016/j.jempfin.2022.12.011

Effects of a sovereign credit rating upgrade to Investment Grade on the Greek economy (with M. Anastasatou, H. Balfoussia, Z. Bragoudakis, P. Migiakis, D. Papageorgiou and P. Petroulas). <u>Bank of Greece Economic Bulletin</u> No 58, December 2023. Economic Bulletin 58 (bankofgreece.gr)

Disrupted lending relationship and borrowers' strategic default (with P. Avramidis and Y. Asimakopoulos). <u>Journal of Financial Services Research 2022</u>, https://doi.org/10.1007/s10693-021-00368-7.

Do banks appraise internal capital markets during credit shocks? Evidence from the Greek crisis (with P. Avramidis, Y. Asimakopoulos and N. Travlos). Journal of <u>Financial Intermediation</u>, 2021, vol. 45, pp. 1-13. <u>https://doi.org/10.1016/j.jfi.2020.100855</u>

The impact of the recovery and resilience facility on the Greek economy (with D. Papageorgiou, M. Vasardani and E. Vourvachaki). <u>Bank of Greece</u> <u>Economic Bulletin</u> No 53, July 2021. <u>Economic Bulletin 53 (bankofgreece.gr)</u>

Does Earnings Quality Matter? Evidence from the Athens Exchange (with Y. Asimakopoulos and A.P. Fassas). <u>Bank of Greece Economic Bulletin</u> No 52, December 2020. https://www.bankofgreece.gr/Publications/oikodelt202012.pdf

Sovereign credit ratings and the fundamentals of the Greek economy (with Petros Migiakis). <u>Bank of Greece Economic Bulletin</u> No 51, June 2020. <u>https://ssrn.com/abstract=4201450</u>

The re-pricing of sovereign risks following the global financial crisis (with P. Migiakis). Journal of Empirical Finance, 2018, vol. 49c, pp. 39-56. https://doi.org/10.1016/j.jempfin.2018.09.003

Comment on: "The Euro Crisis: A View from the North". <u>Journal of</u> <u>Macroeconomics</u>, 2014, vol. 39, part B, pp. 272-274. <u>https://doi.org/10.1016/j.jmacro.2013.08.003</u>

Decomposing the Persistence of Real Exchange Rates (with E. Panopoulou, T. Pandelidis and N. Pittis). <u>Empirical Economics</u>, 2013, vol. 44, Issue 3, pp. 1217-1242. <u>https://doi.org/10.1007/s00181-012-0565-5</u>

Long-Run Cash Flow and Discount-Rate Risks in the Cross-Section of US Returns (with M. Koubouros and E. Panopoulou). <u>European Journal of Finance</u>, 2010, pp. 227-244. <u>https://doi.org/10.1080/13518470903102419</u>

The Impact of EMU on the Equity Cost of Capital (with G. Hardouvelis and R. Priestley). <u>Journal of International Money and Finance</u>, 2007, vol. 26, Issue 2, pp. 305-327. <u>https://doi.org/10.1016/j.jimonfin.2006.12.002</u>

Temporary and Permanent Market Risks: Some Further Evidence (with M. Koubouros and E. Panopoulou), <u>Mathematical and Computer Modelling</u>, 2007, vol. 46, Issues 1-2, pp. 163-173. <u>https://doi.org/10.1016/j.mcm.2006.12.016</u>

EMU and European Stock Market Integration (with Gikas Hardouvelis and Richard Priestley), <u>Journal of Business</u>, 2006, vol. 79, No. 1, pp. 365-392.

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A Note on Nonstationarity, Structural Breaks, and the Fisher Effect. <u>Journal of Banking and Finance</u>, 2000, vol. 24, No. 4, pp. 695-707. <u>https://doi.org/10.1016/S0378-4266(99)00064-3</u>

Mean Reversion in South-East Asian Stock Markets (with Richard Priestley), Journal of Empirical Finance, 1999, vol. 6, pp. 355-384. https://doi.org/10.1016/S0927-5398(99)00010-9

Identifying the Effects of Nominal and Real Shocks on the S&P 500 Stock Price Index. <u>The Manchester School</u>, 1999, vol. 67, pp. 304-324. <u>https://doi.org/10.1111/1467-9957.00149</u>

International Stock Return Differentials and Real Exchange Rate Changes. Journal of International Money and Finance, 1998, vol 17, pp. 493-511. https://doi.org/10.1016/S0261-5606(98)00013-8

Excess Stock Returns and News: Evidence from European Markets. <u>European</u> <u>Financial Management</u>, 1998, vol. 4, pp. 29-46. <u>https://doi.org/10.1111/1468-036X.00052</u>

A Multivariate GARCH Model of Risk Premia in Foreign Exchange Markets. <u>Economic Modelling</u>, 1997, vol. 14, pp. 61-79. <u>https://doi.org/10.1016/S0264-9993(96)01010-3</u>

Are Long-Horizon Stock Returns Predictable? A Bootstrap Analysis. <u>Journal of</u> <u>Business Finance & Accounting</u>, 1996, vol. 23, pp. 93-106. <u>https://doi.org/10.1111/j.1468-5957.1996.tb00404.x</u>

An Infinitely Divisible Distribution in Financial Modelling (with Angeliki Voudouri), <u>Bulletin of the Greek Mathematical Society</u>, 1995, vol. 37, pp. 113-122.

Testing Long-Run Neutrality of Monetary Policy: Evidence from the U.K. <u>Applied</u> <u>Economics Letters</u>, 1995, vol. 2, pp. 347-350. <u>https://doi.org/10.1080/758518986</u>

Conditional Volatility of Exchange Rates and Risk Premia in the EMS. <u>Applied</u> <u>Economics</u>, 1995, vol. 27, pp. 117-123. <u>https://doi.org/10.1080/00036849500000013</u>

Monetary Convergence and the Relationship between European Currencies and the Dollar. <u>International Review of Economics and Business</u>, 1994, vol. XLI, pp. 853-862.

Euromaerkte, Leistungsbilanz und Geldmenge (Euromarkets, Current Account and Money Supply), in: <u>Zeitschrift fuer Wirtschafts- und Sozialwissenschaften</u>, 1992, vol. 112, pp. 47-58.

Market Efficiency and Random Walk Behaviour of the Exchange Rate. International Review of Economics and Business, 1990, vol. XXXVII, pp. 959-967.

Euro-DM-Depositen und Inflation (Euro-DM-Deposits and Inflation). Konjunkturpolitik, 1990, vol. 36 pp. 363-377.

Books and Book Chapters

Euromaerkte und nationale Finanzmaerkte. (Eurocurrency Markets and National Financial Markets). 1990, Peter Lang Verlag, Frankfurt a.M., Bern, N. York, Paris.

Micro-Behavioral Characteristics in a Recessionary Environment: Moral Hazard and Strategic Default (with Y. Asimakopoulos, P. Avramidis and N. Travlos). In P. Monokrousos and C. Gortsos (Eds): Non-Performing Loans and Resolving Private Sector Insolvency, pp. 227-253, Palgrave Macmillan 2017. BoG Working Paper version: http://www.bankofgreece.gr/BogEkdoseis/Paper2016211.pdf

Bank Transaction Taxes: International Evidence and Potential Implications for Greece (with H. Balfousia, D. Papageorgiou and A. Tagkalakis). In D. Thomakos and K. Nikolopoulos (Eds): Taxation in Crisis, pp. 235-267, Palgrave Macmillan 2017. DOI: 10.1007/978-3-319-65310-5_10 - Αναζήτηση Google

Discussion Papers

Unpacking commodity price fluctuations: reading the news to understand inflation. (with Evgenia Passari and Filippos Petroulakis). <u>Bank of Greece</u> <u>Working Paper</u> No. 334, December 2024. <u>https://dx.doi.org/10.2139/ssrn.5087082</u>

Guaranteeing Trade in a Severe Crisis: Cash Collateral Over Bank Guarantees (with A. Kotidis and M. MacDonald). <u>IMF Working Papers</u>, 2023/038. <u>https://www.imf.org/-/media/Files/Publications/WP/2023/English/wpiea2023038-print-pdf.ashx</u>

Public and Private Liquidity during Crises Times: Evidence from Emergency Liquidity Assistance (ELA) to Greek Banks. <u>Bank of Greece Working Paper</u> No. 304, July 2022.

https://doi.org/10.52903/wp2022303

A global monetary policy factor in sovereign bond yields, Dimitris Malliaropulos, Petros Migiakis. <u>Bank of Greece Working Paper</u> No. 301, July 2022. <u>https://doi.org/10.52903/wp2022301</u>

Disrupted lending relationship and borrower's strategic default: Evidence from the tourism industry during the Greek economic crisis (with Y. Asimakopoulos and P. Avramidis). <u>Bank of Greece Working Paper No. 285</u>, January 2021. <u>https://www.bankofgreece.gr/Publications/Paper2021285.pdf</u>

The economic impact of pandemics: real and financial transmission channels (with Hiona Balfoussia, Heather D. Gibson, Dimitris Papageorgiou). <u>Bank of Greece Working Paper No 283</u>, October 2020. <u>https://dx.doi.org/10.2139/ssrn.4197917</u>

Quantitative easing and sovereign bond yields: A global perspective (with Petros Migiakis). <u>Bank of Greece Working Paper No.253</u>, December 2018. <u>https://www.bankofgreece.gr/Publications/Paper2018253.pdf</u>

Why exports adjust: Missing imported inputs or lack of credit? (with A. Kotidis). Bank of Greece Working Paper No. 251, November 2018. http://www.bankofgreece.gr/BogEkdoseis/Paper2018251.pdf Fiscal Policy with an Informal Sector (with H. Dellas, D. Papageorgiou and E. Vourvachaki), <u>CEPR Discussion Paper No. 12494</u>, December 2017. Also available as Bank of Greece Working Paper: <u>http://www.bankofgreece.gr/BogEkdoseis/Paper2017235.pdf</u>

Group Afiliation in Periods of Credit Contraction and Bank's Reaction: Evidence from the Greek Crisis (with Y. Asimakopoulos, P. Avramidis and N. Travlos). Bank of Greece Working Paper No. 237, December 2017. http://www.bankofgreece.gr/BogEkdoseis/Paper2017237.pdf

The Re-Pricing of Sovereign Risks following the Global Financial Crisis (with P. Migiakis). <u>Bank of Greece Working Paper No. 216</u>, July 2016. <u>http://www.bankofgreece.gr/BogEkdoseis/Paper2016210.pdf</u>

Credit-Less Recoveries: The Role of Investment-Savings Imbalances (with H. Balfousia). <u>Bank of Greece Working Paper No. 200</u>, November 2015. <u>http://www.bankofgreece.gr/BogEkdoseis/Paper2017200.pdf</u>

Stock Prices, Returns, and Dividend Yields (with R. Priestley), January 2011.

The Yield Spread as a Symmetric Predictor of Output and Inflation (with G. Hardouvelis). <u>CEPR Discussion Paper No. 4314</u>, 2004. <u>https://papers.ssrn.com/sol3/papers.cfm?abstract_id=497822</u>

Testing Long-Run PPP in the Presence of Sticky Prices. February 1998 (with Gikas Hardouvelis). <u>https://papers.ssrn.com/sol3/papers.cfm?abstract_id=233655</u>

GRMOD: An Econometric Model of Greece, 1998. Working Paper, National Bank of Greece.

Money, Long-Run Superneutrality, and Real Equity Prices. <u>CERF Discussion</u> <u>Paper 96-07</u>, Brunel University.

Explaining the Stochastic Trend in Velocity of Money. <u>CERF Discussion Paper</u> <u>96-06</u>, Brunel University.

International Stock Return Differentials and Real Exchange Rate Changes. <u>CERF</u> <u>Discussion Paper 96-09</u>, Brunel University.

Long-Run Neutrality of Money in an ARIMA Framework. <u>CERF Discussion Paper</u> <u>96-10</u>, Brunel University.

Is Equity a Hedge against Inflation in the Long Run? Evidence from the G5. <u>CERF Discussion Paper 96-01</u>, Brunel University.

Shocks, Risk, and the Predictive Power of Long Bond Yields for Future Inflation. <u>CERF Discussion Paper 96-13</u>, Brunel University.

Selected Publications in Applied Industry Journals

Overall, I have co-authored more than 160 reports and research articles in applied industry journals over the period 1997-2013:

- 1997-2005: National Bank of Greece "Euro-Area Monthly", "Economic and Financial Bulletin", "Greece: Economic & Market Analysis". <u>https://www.nbg.gr/en/group/studies-and-economic-analysis</u>
- 2005-2013: Eurobank EFG "Global Economic & Market Outlook", "Economy and Markets". <u>https://www.eurobank.gr/en/group/economic-research/diethnis-oikonomia-kai-agores</u>. <u>https://www.eurobank.gr/en/group/economic-research/economic-bulletin</u>

2000-2013: European Banking Federation "FBE Letters". <u>www.fbe.eu</u>

Large part of my applied research was about predicting major events and turning points in economies and markets (bad ones, such as economic recessions and market crashes, but also good ones, such as economic recoveries). A number of papers focused on economic policy advice (fixing the Drachma/Euro parity at EMU entry, competitiveness and internal devaluation, debt sustainability etc). Some examples are given below:

<u>Risk, Share Performance and Company Size in Greece</u> (with Gikas Hardouvelis). Economic and Statistical Bulletin of the National Bank of Greece, 1999, Nr. 11, pp. 6-14 (unfortunately not available online, copy available on request).

This paper suggested that, based on firm and market fundamentals, SME stocks at the Athens Stock Exchange were extremely overvalued relative to large stocks in 1999. The analysis preceded the burst of the SME bubble and the stock market crash of 2000.

<u>The Drachma Exchange Rate and its Long-Run Equilibrium Level</u> (with Gikas Hardouvelis). Economic and Statistical Bulletin of the National Bank of Greece, 1998, Nr. 9, pp. 6-15 (unfortunately not available online, copy available on request).

One of the major issues in the run-up to the Economic and Monetary Union was to determine the equilibrium exchange rate at which national currencies should join the euro. This paper used a small-scale macro-econometric model of the Greek economy to estimate the fundamental value of the Drachma/Euro exchange rate, on the basis of two economic principles: equilibrium inflation based on a long-run version of the Quantity Theory of Money and long-run Purchasing Power Parity. The estimates suggested that the overvaluation of the Drachma was much less than many market participants assumed at that time.

The New Drachma/Euro Central Parity and Economic Fundamentals: NBG's <u>Earlier Forecasts are proven Correct</u> (with Gikas Hardouvelis), Economic and Statistical Bulletin of the National Bank of Greece, 2000, Volume 4, Issue 1, pp. 6-15 (unfortunately not available online, copy available on request).

This paper updated our earlier analysis and confirmed that the central parity at which Greece eventually joined the euro area (1 euro = 340.75 drachmas) was (almost exactly) in line with our 1998 model predictions.

<u>Main Macro Views and Market Strategy</u> (with Olga Kosma, Costas Lambrinoudakis and Maria Prandeka, February 2008: <u>Microsoft Word - Global</u> <u>Economic Market Outlook February 2008.doc (eurobank.gr)</u>

This paper was one of the first to predict that the U.S. was heading to a fullfledged economic recession in early 2008 (the first one to predict a U.S. recession at that time was Nouriel Roubini). The paper provided a detailed description of a small-scale econometric model of the U.S. economy, including the probit model of U.S. GDP, used to estimate the probability of a recession.

Fiscal Adjustment and Economic Growth 2010-2020 (in Greek). Economy and

Markets, Eurobank EFG, February 2010. <u>OikonomiaAgoresFeb.pdf (eurobank.gr)</u> This is to my best knowledge the first ever published Debt Sustainability Analysis of Greek sovereign debt (the IMF DSA came a few months later, in May 2010, <u>Greece: Staff Report on Request for Stand-By Arrangement; IMF Country</u> <u>Report 10/110; May 5, 2010.</u>). My analysis warned that under an adverse scenario of low growth and unsuccessful fiscal consolidation, public debt would reach 190% of GDP by 2020 (in fact, the debt/GDP ratio reached 186% in December 2019).

How much did competitiveness of the Greek economy decline since EMU entry? Economy and Markets, Eurobank EFG, July 2010.

https://www.eurobank.gr/Uploads/Reports/OikonomiaAgores13July2010.pdf

Restoring wage and price competitiveness of the Greek economy was one of the main goals of the Economic Adjustment Programme between Greece and its official creditors following the 2010 sovereign crisis. Using a sectoral decomposition of wage and price competiveness, this paper shows that Real Equilibrium Exchange Rate estimates of international organizations and central banks (including the IMF, the OECD, the European Commission and the ECB) at that time grossly overstated the loss of competitiveness of the Greek economy during the previous decade. As a policy implication, the need for 'internal devaluation' was not as large as Greece's official lenders seemed to suggest in the 2010 Economic Adjustment Programme. The paper predicted that competitiveness could be restored through the combined effect of recession, labour market reforms and the weak euro, without imposing a process of internal devaluation on Greece, and that the export sector will turn out to be one of the main drivers of growth of the Greek economy looking forward.

<u>Competitiveness, External Deficit and External Debt of the Greek Economy</u> (with Tasos Anastasatos). Economy and Markets, Eurobank EFG, April 2011. <u>https://www.eurobank.gr/Uploads/Reports/Economy%20%20Markets%20April%2</u> 02011.pdf

This paper shows that the loss in competitiveness of the Greek economy over the 2000s was mainly due to the increase in the prices of non-tradables relative to tradables and the reallocation of resources to the non-tradeables' sector. In terms of economic policy implications, the paper suggested that an internal devaluation (as suggested by the IMF and European institutions) was the wrong policy because it would lead to a uniform decline in wages and prices across all sectors without affecting relative prices. The paper went on to suggest that the restoration of competitiveness required policies which provided incentives to producers and workers to shift from the production of non-tradables to sectors with strong export orientation and sectors whose products can substitute for the country's imports.

Long-Term Growth Prospects of the Greek Economy (with Olga Kosma) Economy and Markets, Eurobank EFG, Volume 8, Issue 2, February 2013 https://www.eurobank.gr/Uploads/Reports/Economy%20and%20Marketsfeb2013. pdf

This paper reviews the academic growth literature and uses empirical growth regressions to quantify the impact of potential sources of growth on the long-term growth rate of the Greek economy. One of the main findings is that the restructuring of the Greek economy towards an export-based growth model with a smaller public sector should create the basis for a rebound of long-term economic growth in Greece, adding more than 1% p.a. to per capita GDP growth.

The improvement in the Competitive Position of the Greek Economy and <u>Prospects for an Export-led Growth Model</u> (with Tasos Anastasatos), Economy and Markets, Eurobank EFG, Volume 8, Issue 1, January 2013. <u>http://www.eurobank.gr/Uploads/Reports/01_Economy%20and%20Markets%20J</u> an%202013.pdf

When we published this paper in 2013, most people thought this was science fiction. I cite part of its main predictions: "Given the current outlook for the global economy and the effect of an overall increase in competitiveness of the Greek economy by 30%, our estimates suggest that Greek real exports are likely to grow on average by nearly 8% per annum over the next eight years, relative to world export growth of 5% p.a., if the recent gains in the competitive position of the country translate into export growth. This would be sufficient for the export-to-GDP ratio to reach 39% by 2020, from 25% currently, bringing it at par with EU17 peers and constituting a true structural reform towards an export-led model of growth. In this scenario, exports would contribute on

average 2.5% and net exports 1% of real GDP growth per annum, compared to a contribution of net exports of 0.2% on average in the EU17." In fact, Greece's real exports of goods increased by 64% over the period 2013-2021 according to Eurostat-Ameco, i.e. by 8% per annum, outpacing export growth of the euro area by more than 4 percentage points per annum!

<u>Can Greece jumpstart growth without bank credit expansion?</u> (with Olga Kosma), Economy and Markets, Eurobank EFG, September 2011. <u>https://www.eurobank.gr/Uploads/Reports/Economy%206Sept2011.pdf</u>

<u>Credit cycles and their role for macro-prudential policy</u>. Economic and Monetary Affairs Committee. European Banking Federation, November 2011.

<u>Greek debt capital markets</u> (with L. Vallianatos). In: The Euromoney Guide to International Debt Capital Markets 2001, pp. 123-134.