Institution: Goldsmiths, University of London		
Unit of Assessment: 17, Business and Management Studies		
Title of case study: New analysis of green financial systems informs climate change policy		
Period when the underpinning research was undertaken: 2016-current		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s): Dr Giorgos Galanis	**Role(s) (e.g. job title):** Senior Lecturer, Economics	**Period(s) employed by submitting HEI:** 2016-present
Period when the claimed impact occurred: 2016-2019		
Is this case study continued from a case study submitted in 2014? N		

1. Summary of the impact

Galanis' analysis of the effectiveness of monetary policies that support green financial systems has informed party-political policy debates and enabled the UK Labour Party, the EU Parliament and the World Wide Fund for Nature (WWF) Hellas to promote the introduction of green investment programmes for banks in an effort to reduce CO2 emissions. Providing politicians, policy makers and campaigners with new information about the financial stability of green quantitative easing schemes has enabled the development and realisation of campaign pledges and contributed to debates about the financial industry's potential contribution to green new deal.

2. Underpinning research

Galanis' research at the Institute of Management Studies (IMS) at Goldsmiths is motivated by questions about the interconnections between financial stability and environmental sustainability. Since the 2007 global financial crisis, the potential role of the banking industry in delivering green policies has received considerable attention among policy makers and policy institutions. Existing economic models that inform policy making, however, lack a clear understanding of the interaction between macroeconomic, environmental, and financial variables. Without these data, policy makers cannot advocate policies which target both financial stability and environmental sustainability.

Computational economic models: In order to provide a critical analysis that speaks to financial stability and environmental sustainability, Galanis' develops computational economic models which includes writing the functional forms that take into account people's cognitive limitations and relevant biases. His article, "Macroeconomic and stock market interactions with endogenous aggregate sentiment dynamics" (2018) is an example of Galanis' use of economic modelling to capture how financial stability is an emerging phenomenon in advanced financial systems [R1].

In 2016, Galanis, working with colleagues from the University of Greenwich (Dafermos and Nikolaidi) and the New Economics Foundation (NEF) co-developed a new computational economic model to analyse the interaction between ecosystems, financial systems, and the macroeconomy. By running a simulation analysis using the Dynamic Ecosystem-FINance In Economy (DEFINE) model, Galanis and the research team were able to evaluate and model the extent to which the implementation of a green quantitative easing programme would help banks reduce the financial risk associated with climate change [R2].

Analysing the interconnections between financial stability and environmental sustainability: The simulation analysis using the DEFINE model suggests that *if* central banks buy a specific proportion of green bonds and *if* they keep the same share of the green bond market in the next decade, then the purchase of corporate green bonds reduces their interest rate, in comparison to the interest rate on conventional bonds. A reduced interest rate is a lower risk outcome which means that businesses become more willing to invest in projects involving renewables and energy efficiency. Furthermore, the lower cost of borrowing on the bond market would make businesses more willing to issue bonds, instead of relying on bank loans. Galanis' co-authored article, *Climate Change, Financial Stability and Monetary Policy* (2018), uses this analysis to show that in comparison to a business-as-usual scenario, green quantitative easing (QE) programmes can help boost investment in renewables and energy efficiency which would help reduce global warming in the long run [R3]. As more firms invested in green initiatives, in response to lower interest rates on green bonds, the financial health of these businesses and banks would consequently lead to greater financial stability and a reduction of CO2 emissions.

Challenging misconceptions about the destabilising effect of green financial systems: The research findings provide the first coherent study on the effects of green quantitative easing and shows that central banks could help countries move closer toward their decarbonisation targets by purchasing green corporate bonds without risking financial instability. Galanis' articulation of green finance and financial stability has been presented to the GUE/NGL (Confederal Group of the European Left/ Nordic Green Left) Parliamentary Group in the European Parliament who were discussing "EU peripheral economies from austerity to sustainable growth' (December 2016). The research has also been used to discredit claims that green monetary policies have a destabilising effect on the economy. For example, in 2019, the APO Australian Think-tank, cited 'Climate Change, Financial Stability and Monetary Policy' to mount a challenge to a leading politician who had questioned the sustainability of green policies and finances.

3. References to the research

[R1] Flaschel, P., Charpe, M., Galanis, G., Proano, C. and Veneziani, R. (2018) "Macroeconomic and Stock Market Interactions with Endogenous Aggregate sentiment dynamics" *Journal of Economic Dynamics and Control,* 91, pp. 237-256

[R2] Dafermos, Y., Nikolaidi, M., Galanis, G. (2017), "A stock-flow-fund ecological macroeconomic model", *Ecological Economics*, 131, pp. 191-207

[R3] Dafermos, Y., Nikolaidi, M., Galanis, G. (2018), Climate Change, Financial Stability and Monetary Policy, *Ecological Economics*, vol. 152, pp. 219-234

*All outputs submitted to REF2

4. Details of the impact

Finding ways to transition to a low carbon economy is a key policy challenge across the world that has implications for all major industries. However, it has not always been clear how central banks might contribute to new green policies without taking on additional financial risk. Galanis' research on the interconnection between sustainable banking practices and the macroeconomy has helped challenge misconceptions about this risk, providing the Vice President for the European Parliament, the economic adviser for the World Wide Fund for Nature (WWF) Hellas and the Labour Party (UK) with evidence that allows them to advocate for new green financial initiatives.

<u>**Informing green financial policy recommendations and pledges**</u>

Council on Economic Policies (CEP) propose that banks contribute to low carbon economy: In November 2017, Galanis' co-authors, Dafermos and Nikolaidi, presented their research analysis on green fiscal policy at a CEP workshop on 'Central Banking and Green Finance'. The CEP went on to release proposals regarding how central banks can help the transition towards a low carbon economy in a discussion paper entitled, 'Central Banks and the Transition to a Low Carbon Economy' (2018). The paper cites Galanis and his co-researchers report in relation to questions about whether green quantitative easing is a realistic and financially stable option for central banks [S1].

EU Parliament propose amendments for a sustainable finance bill: Galanis gave a presentation on his research to the EU parliament in 2017, whereafter MEP Dimitrios Papadimoulis, Vice President of the European Parliament and his Cabinet maintained close contact, initiating continued discussions on issues regarding green financial policies and drawing on Galanis' two articles in *Ecological Economics* [R3, R4]. An email from the Office of the Vice President of the European Parliament confirms how Papadimoulis used Galanis' research: "As a direct result [..], Mr Papadimoulis proposed amendments to the 'Sustainable Finance' report of the Committee of Economic and Monetary Affairs of the European Parliament (ECON) in October 2017; citing the two papers" [S2]. While the bill was not passed, the citation and Papadimoulis' subsequent thinking on amendments to EU sustainable finance reports is indicative of the interest in Galanis' analysis of sustainable banking initiatives and the use of the research to inform political debates and EU legislation [S3].

Australian think tank cites research to support claim that green initiatives would not be 'economy wrecking': In May 2019, the Australia Institute, an independent public policy think tank, published a discussion paper claiming that Australia could achieve ambitious green targets without severely impacting on the economy. Their evaluation countered claims by the Business Council of Australia (BCA) which suggested that increased action on climate change would be 'economy wrecking' and raised questions about the Australian government's approach to environmental policies. Citing Galanis' co-authored paper [R3] as evidence of the, 'significant cost of inaction' and specifically the **systemic financial risk** associated with 'excess investment in fossil fuel and other high carbon assets', the Australian Institute's report contributes to their mission to challenge misconceptions by sourcing robust research and applying it to real world problems [S4].

WWF Hellas advise the Greek Government on the creation of a Hellenic Development Bank: The DEFINE model's analysis on the relationship between green finance and financial stability was originally developed in conjunction with the New Economics Foundation (NEF). Former NEF Senior Economist, Oliver Vardakoulias, who now works as Economic Policy Coordinator for the WWF Hellas, describes how he used DEFINE's subsequent analysis to further the work of the WWF and to guide his recommendations to the Greek Government:

> "After joining WWF Greece in 2018, I have been using the publications and research results of Dr Galanis and his co-authors (a) to **lobby financial regulators** for the need of investigating the links between Greece's financial sector, macroeconomic stability and environmental sustainability; and (b) to **formulate specific recommendations** to the Greek government in the context of the creation of the Hellenic Development Bank (HDB) in 2019." [S5]

Labour Party use new information about the financial viability of green banking systems to endorse their proposals for a Green New Deal: Galanis' research has also played a role in the Labour Party's 2019 Election Manifesto and has contributed to their commitment to a Green New Deal. In October 2018 the Labour Party launched 'The Green Transformation: Labour's environment policy' marking Labour's new focus on climate action, which paved the way for the party's commitment to a 'green industrial revolution', announced by Shadow Chancellor of the Exchequer, John McDonnell MP (2015-2020) in June 2019.

Labour's pledge included a review of the role of the financial sector in helping with climate crisis, as described in the subsequent report: 'Finance and Climate Change: A Progressive Green Finance Strategy for the UK'. Galanis' co-researchers, Nikolaidi and Dafermos were on the external review group that produced this report and the findings of the *Ecological Economics* paper on 'Climate Change' directly informed five of the key recommendations [S6]:

- Make climate-related financial disclosures mandatory
- Green the mandate of the Bank of England by re-interpreting and/or modifying it
- Green the collateral framework of the Bank of England's Monetary Policy Operations
- Use the NIB to steer bank credit towards low-carbon projects

- Green the Bank of England's Corporate Bond Purchase Scheme

The report, published in November 2019, attracted considerable attention, as evidenced through articles in *The Financial Times, Bloomberg* and *ITV* news [S7].

In September 2019 delegates at the Labour Party conference voted overwhelmingly in favour of a Green New Deal programme which pointed to 'radical policies to increase social and economic justice'. After the surprise announcement of a general election in October 2019, Labour launched their Election Manifesto which identified green financial investments as part of their commitment to 'A Green Industrial Revolution'. Labour's pledge included the introduction of a 'Sustainable Investment Board', costing environmental impacts into fiscal decisions made by the Office for Budget Responsibility and ensuring the UK's financial sector is more involved in efforts to tackle climate crisis:

> "We will do this by improving the fitness of our financial authorities to mobilise green investment and by giving them powers to manage the risk to financial stability posed by short-sighted investment in polluting assets." [S8]

Leading campaign group, Friends of the Earth, noted that Labour's election pledges are the 'greenest'/strongest on climate change interventions and while Labour lost the 2019 election, they continue to support a green new deal, as evident in declarations regarding post-pandemic financial support that advocate radical green investment programmes to address the climate emergency.

5. Sources to corroborate the impact

[S1] Paper: Pierre Monin (2018) 'Central Banks and The Transition to a Low Carbon Economy' Council on Economic Policies, Discussion Note, 28/1, p. 11, 1 March 2018.

[S2] Written testimony: Dimitrios Papadimoulis MEP, Vice President of the European Parliament, 11 November 2019.

[S3] Draft Report (PE630.512v01-00): European Parliament, Committee on Economic and Monetary Affairs: 'Amendments 124-385: Establishment of a framework to facilitate sustainable investment' p.9, 12, 56, 17 December 2018.

[S4] Report: Tom Swann, Richie Merzian, 'A Model Line-up: Comparing economic models of high ambition emission reduction targets', The Australia Institute, p.12, May 2019.

[S5] Written testimony: Oliver Vardakoulias, Economic Policy Officer, WWF Greece, 15 August 2019.

[S6] Report: See: Recommendation II: Make climate-related financial disclosures mandatory (pp. 28-29); Recommendation IV: Green the mandate of the Bank of England by re-interpreting and/or modifying it (pp.30-31); Recommendation V: Green the collateral framework of the Bank of England's Monetary Policy Operations (pp. 31-32); Recommendation VI: Use the NIB to steer bank credit towards low-carbon projects (pp. 32-33); Recommendation VII: Green the Bank of England's Corporate Bond Purchase Scheme (pp. 33-34) in 'Finance and Climate Change: A Progressive Green Finance Strategy for the UK', Report of the independent panel commissioned by Shadow Chancellor of the Exchequer John McDonnell MP', November 2019.

[S7] Select media reports: a) The Financial Times 'Labour eyes penalties for financiers of climate change' , 1 November 2019; b) Bloomberg, 'Labour to tackle financial institutions funding climate change' 2 November 2019; c) ITV, 'Banks and hedge funds financing climate change to be tackled by Labour', 2 November 2020 [Grouped Source]

[S8] Manifesto; see 'A Green Industrial Revolution: Economy and Energy: Investment' in Labour Party Manifesto, 'It's Time for Real Change' p.13, 21 November, 2019.