

## Digital Monies for a Sustainable Future

The syllabus is preliminary and subject to changes till the course's start.

#	Session	Required readings	Session focus
<b>Module 1: Setting the stage</b>			
1	<p>Money today, theory and practice</p> <p>April 20, 13.00-16.00</p> <p>Anders Ögren, Ester Barinaga, Paul Stankovski &amp; Christian Gehrman</p>	<p>Readings:</p> <ul style="list-style-type: none"> <li>Werner, R. 2014. <a href="#">Can banks individually create money out of nothing?</a> The theories and the empirical evidence. <i>International Review of Financial Analysis</i>, 36:1-19.</li> <li>Goodhart, C.A.E. 1998. <a href="#">The two concepts of money</a>: implications for the analysis of optimal currency areas <i>European Journal of Political Economy</i>, 14: 407-432</li> <li>Wray, R. L. 2012. <a href="#">Introduction to an Alternative History of Money</a>. <i>Levy Economics Institute Working Paper</i>, 717</li> <li>Kiyotaki, N. &amp; Wright, R. 1989. <a href="#">On Money as a Medium of Exchange</a>. <i>Journal of Political Economy</i>, 97(4): 927-954</li> <li>Kocherlakota, N.R. 1998. <a href="#">Money Is Memory</a>. <i>Journal of Economic Theory</i>, 81:232-251</li> <li>Rendahl, P. och Lukas B. Freund. 2019. <a href="#">Banks do not create money out of thin air</a>. <i>Centre for Economic Policy Research</i></li> </ul> <p>Further readings:</p> <ul style="list-style-type: none"> <li>McLeay et al. 2014. <a href="#">Money in the modern economy</a>: an introduction. Bank of England's <i>Quarterly Bulletin</i>. Videos <a href="#">here</a> &amp; <a href="#">here</a>.</li> </ul>	<ol style="list-style-type: none"> <li>Course intro &amp; admin</li> <li>Where does money come from? Theory and practice</li> <li>Group discussion</li> </ol> <p>Where does money come from? And how is it created? Although we use money everyday, few stop to wonder where the money they use comes from and how the traits of the creation process shape the form of our economies and the ties in our societies.</p> <p>In this session, we will discuss the process through which today's money is created and how our ideas on money and monetary systems are shaped by monetary theories that may have little to do with the actual working of money and monetary systems.</p> <p><i>Note: Although some of the articles in the course are quite technical, the students are not asked to validate the mathematical derivations of the problems, but rather to understand the underlying assumptions as well as how they shape the outcome (conclusions).</i></p>

#	Session	Required readings	Session focus
2	<p>Digital technology for a monetary infrastructure</p> <p>April 22, 13.00-16.00</p> <p>Paul Stankovski, Christian Gehrman, Ester Barinaga &amp; Anders Ögren</p>	<p>Case: Bitcoin</p> <p>Readings:</p> <ul style="list-style-type: none"> <li>• Nakamoto, S. 2008. <a href="#">Bitcoin</a>: A Peer-to-Peer Electronic Cash System. Bitcoin White Paper.</li> <li>• D.Yaga and P.Mell, <a href="#">Blockchain Technology Overview</a>, NISTIR 8202, NIST, October, 2018.</li> <li>• R. Houben and A. Snyers, <a href="#">Cryptocurrencies and blockchain - Legal context and implications for financial crime, money laundering and tax evasion</a>, Study by the Policy dept of the . European Parliament, June, 2018.</li> </ul>	<ol style="list-style-type: none"> <li>1. What problem did the original cryptocurrencies intend to address?</li> <li>2. The technology behind the solution</li> <li>3. Group discussion</li> </ol> <p>Today's discussion on money is as much driven by a frustration towards the financial system as it is by excitement about new technological developments. Among others, much hope is placed on blockchain technology and the cryptocurrencies that use it. In this session we will discuss the technology behind digital and cryptocurrencies and the principles that guide the development of these novel technologies. What are the possibilities they open? And what are their limitations for efforts to re-organize our economy?</p>

#	Session	Required readings	Session focus
<b>Module 2: Monetary Innovations Past and Present</b>			
3	Global Cryptocurrencies  April 28, 13.00-16.00  Ester Barinaga, Anders Ögren, Paul Stankovski & Christian Gehrman	Case: Faircoin Readings: <ul style="list-style-type: none"> <li>• Köning et al. 2018. <a href="#">The proof-of-cooperation blockchain FairCoin</a>. White Paper.</li> <li>• Rozas et al. 2018. <a href="#">When Ostrom Meets Blockchain</a>: Exploring the Potentials of Blockchain for Commons Governance.</li> <li>• Swartz, L. 2017. <a href="#">Blockchain dreams</a>: Imagining techno-economic alternatives after Bitcoin. In Castells, M. et al. (eds.) Another economy is possible: Culture and economy in a time of crisis, Ch.4 (pp.82-105). Polity Press.</li> <li>• Zelizer, V. 2001. <a href="#">Circuits of commerce</a>. In Alexander, J., Marx, G.T. &amp; Williams, C. (eds.), <i>Self, Social Structure, and Beliefs: Explorations in the Sociological Thought of Neil Smelser</i>. University of California Press.</li> <li>• Dodd, N. 2017. The social life of Bitcoin. <i>Theory, Culture, &amp; Society</i>, 35(3):</li> </ul> For further reading: <ul style="list-style-type: none"> <li>• Hayes, A. The Socio-Technological Lives of Bitcoin. <i>Theory, Culture, &amp; Society</i>, 36(4).</li> <li>• Latour, B. 1990. <a href="#">Technology is Society Made Durable</a>. <i>The Sociological Review</i>, 38(1)</li> <li>• De Filippi &amp; Loveluck. 2016. <a href="#">The invisible politics of Bitcoin</a>: governance crisis of a decentralised infrastructure. <i>Internet Policy Review</i>, 5(3).</li> <li>• Scholz, T. 2016. <a href="#">Platform Cooperativism</a>: Challenging the Corporate Sharing Economy.</li> <li>• Kleiner, D. 2010. <a href="#">The Telekommunist Manifesto</a>. Amsterdam: Colophon.</li> </ul>	1. Tensions in blockchain evolution 2. FairCoin 3. Group discussion: Is blockchain a neutral technology to ease economic exchange? Or, can blockchain technologies be designed to inscribe values and practices more conducive to sustainable, fair and just economies?  Cryptocurrencies have been criticised for its high energy consumption, its promotion of competitive values and the lack of a real economy that supports them. A variety of monetary and technology activists are devising cryptocurrencies that overcome those three challenges.  Through the case of FairCoin we will look into how cooperative values can be inserted into the technology. Further, we will look at how values of cooperation serve to organise a real economy that can back the cryptocurrency. Are an economy and a technological infrastructure organised around cooperation the key to re-imagine money for a sustainable future? What are the potentials and what the risks?

#	Session	Required readings	Session focus
4	<p>Sovereign Money</p> <p>May 5, 13.00-16.00</p> <p>Anders Ögren, Paul Stankovski, Christian Gehrmann &amp; Ester Barinaga</p>	<p>Cases: John Law &amp; Central Bank Digital Currencies (CBDC)</p> <p>Readings:</p> <ul style="list-style-type: none"> <li>• Neal, L. (2000) How it all began: the monetary and financial architecture of Europe during the first global capital markets, 1648–1815. <i>Financial History Review</i>, 117-140</li> <li>• Ögren, A. 2019. Replacing Bank Money with Base Money: The Consequences of Ending the Private Bank Note Issuance in Sweden. <b>Working paper LUPEH.</b></li> <li>• Velde, F. 2007. John Law's system. <i>American Economic Review</i> 97:276-279</li> <li>• Sweden Central Bank. E-krona project, <a href="#">report 2</a>. And <a href="#">here</a>.</li> <li>• Vasiliauskas, V. 2019. <a href="#">Central bank digital currencies</a>. Speech by Mr Vitas Vasiliauskas, Chairman of the Board of the Bank of Lithuania, at the Reinventing Bretton Woods Committee conference <i>Managing the Soft Landing of the Global Economy</i>, Washington DC, 12 April, 2019.</li> </ul> <p>Newspapers, homepages:</p> <ul style="list-style-type: none"> <li>• CNBC. 2018. <a href="#">Tether</a>: What you need to know about the cryptocurrency worrying markets.</li> <li>• Leising, M. (2018) U.S. <a href="#">Regulators Subpoena Crypto Exchange Bitfinex, Tether</a>; <i>Bloomberg news</i>, 30 January 2018.</li> </ul> <p>For further reading:</p> <ul style="list-style-type: none"> <li>• Wray, R. 2019. <a href="#">Alternative paths to modern money theory</a>. <i>Real-World Economics Review</i>, 89.</li> <li>• Positive Money. 2018. <a href="#">Escaping growth dependency</a>: Why reforming money will reduce the need to pursue economic growth at any cost to the environment.</li> <li>• Fisher, I. 1936. <a href="#">100% Money and the Public Debt</a>. Cornell University.</li> <li>• Wolf, M. 2014. <a href="#">Strip private banks of their power to create money</a>. <i>Financial Times</i>.</li> </ul>	<ol style="list-style-type: none"> <li>1. Historical overview of Sovereign Money</li> <li>2. Cases: John Law's system, Tether and Central bank Digital Currencies</li> <li>3. Student debate</li> </ol> <p>An increasing number of economists are arguing for governments and central banks to take back the power to issue the larger part of our money. From the Positive Money movement to Modern Monetary Theorists, sovereign money is being put back on the agenda. These ideas are however not new, and have been tested with various degrees of success. What are the differences between sovereign monetary systems in history and today? Is the new technology solving those issues? What problems do still remain? Are other problems created by these potential solutions? If so, which ones?</p>

#	Session	Required readings	Session focus
5	<p>People Powered Money</p> <p>May 12, 13.00-16.00</p> <p>Ester Barinaga, Anders Ögren, Paul Stankovski &amp; Christian Gehrmann</p>	<p>Case: The miracle of Wörgl</p> <p>Required readings:</p> <ul style="list-style-type: none"> <li>• Gesell, S. 1916. A story of Robinson Crusoe. In <a href="#">The Natural Economic Order</a>, part V ("The free-money theory of interest"), pp. 365-370.</li> <li>• Blanc, J. 2019. Making sense of the plurality of money. In Gómez, G. (ed.) <i>Monetary plurality in local, regional and global economies</i>, ch.3.</li> <li>• Humphrey, T.M. 1974. <a href="#">The Quantity Theory of Money</a>: Its Historical Evolution and Role in Policy Debates. <i>FRB Richmond Economic Review</i>, 60 (May/June): 2-19.</li> <li>• Callon, M. 2007. <a href="#">What does it mean to say that economics is performative?</a> In McKenzie et al. (eds.) <i>Do Economists Make Markets</i>. Princeton Univ. Press</li> <li>• Desan, C. 2017. <a href="#">The Constitutional approach to money</a>: Monetary design and the production of the modern world. In Bandelj, Wherry &amp; Zelizer (eds.) <i>Money Talks: Explaining how money really works</i>, ch.6, pp.109-130.</li> </ul> <p>Suggestions for further reading:</p> <ul style="list-style-type: none"> <li>• Blanc, J. et al. 2019. Monetary plurality in economic theory. In Gómez, G. (ed.) <i>Monetary plurality in local, regional and global economies</i>, ch.2</li> <li>• Ögren, A. 2016. A neglected contribution to monetary theory in the eighteenth century: Anders Wappengren on paper money, floating exchange rates, and purchasing power parity. <i>The European Journal of the History of Economic Thought</i>, 23(6):870-896.</li> <li>• Daskalaki, Fotaki &amp; Sotiropoulou. 2018. <a href="#">Performing Values Practices and Grassroots Organizing: The Case of Solidarity Economy Initiatives in Greece</a>. <i>Organization Studies</i>.</li> </ul>	<ol style="list-style-type: none"> <li>1. Contradictory functions of money</li> <li>2. Wörgl: How do people currencies address this contradiction?</li> <li>3. Group discussion: How do the values and theories guiding monetary design? And how do they shape economic behaviour?</li> </ol> <p>Financial crisis have followed each other since the beginning of capitalism and cities and their citizens have creatively innovated with money to address the social challenges and meet the economic needs such crisis bring. People powered money, as its proponents call these grassroots innovations, are showing one way to re-imagine, re-claim and re-organize money.</p> <p>In this session, students will be presented to one of the currencies that most inspires today's people money movement. How are the values and practices such currencies promote help us re-think money?</p>

#	Session	Required readings	Session focus
6	<p>Community Cryptocurrencies</p> <p>May 18, 13.00-16.00</p> <p>Ester Barinaga, Anders Ögren, Paul Stankovski &amp; Christian Gehrman</p>	<p>Case: Kenyan community cryptocurrencies</p> <p>Readings:</p> <ul style="list-style-type: none"> <li>• Ruddick. 2020. Community Inclusion Currencies. <a href="#">White Paper</a>.</li> <li>• Barinaga, Zapata Campos &amp; Ruddick. Under review. Malleable grassroots infrastructures: The case of the Kenyan community currencies. <i>Environment and Planning D</i>.</li> <li>• Larkin, B. 2013. <a href="#">The politics and poetics of infrastructure</a>. <i>Annual Review of Anthropology</i> 42:327–73.</li> <li>• Hayek, F.A. 1976. <a href="#">Denationalisation of money</a>, ch. 1&amp;2, pp.23-28.</li> <li>• Zelizer, V. 2012. <a href="#">How I Became a Relational Economic Sociologist and What Does That Mean?</a> <i>Politics &amp; Society</i>, 40(2):145-174.</li> </ul> <p>Suggestions for further reading:</p> <ul style="list-style-type: none"> <li>• Ögren, A. 2006. Free or central banking? Liquidity and financial deepening in Sweden, 1834–1913. <i>Explorations in Economic History</i>, 43:64-93.</li> <li>• Fantacci, L. 2013. <a href="#">Why not Bancor?</a> Keynes's Currency Plan as a Solution to Global Imbalances. In Hirai, T. Marcuzzo, M.C. &amp; Mehrling, P. (eds.) <i>Keynesian Reflections: Effective Demand, Money, Finance, and Policies in the Crisis</i>. Ch.9. Oxford Scholarship Online.</li> <li>• Bandelj, N. 2016. <a href="#">Thinking about social relations in Economy as Relational Work</a>. In Aspers, P. &amp; Dodd, N. (eds.) <i>Re-imagining Economic Sociology</i>, ch.9 (pp. 227-251).</li> <li>• Hertzog et al. 2018. <a href="#">Bancor Protocol</a>: Continuous Liquidity for Cryptographic Tokens through their Smart Contracts. Bancor White Paper.</li> <li>• Ülgen, F. 2013. Coordination in economy: An essay on money. In Ülgen, F. (ed.) <i>New Contributions to Monetary Analysis: The foundations of an alternative economic paradigm</i>, ch.12, pp. 172-187).</li> </ul>	<p>1. Two contradictory logics</p> <p>2. Case: Miyani-pesa</p> <p>3. Group discussion: How are community-based cryptocurrencies re-imagining money? Have the values, practices, and knowledges they inscribe the potential to project us into a sustainable future?</p> <p>The recent wave of monetary experimentation takes most concrete form in two areas. The first, digital currencies with global ambitions (such as Bitcoin and Ethereum), are redesigning the technologies that are to underpin a new monetary system. The second, local currencies with geographically confined reach (ex. Time Dollars, Regiogeld or Transition Town currencies), are rethinking the way the production of money is to be embedded in community structures. Distinct on the outset, both global and local currencies are opening up our possibilities to re-imagine, re-organize and re-claim money to put it at the service of a commons. It is this shared determination to develop a monetary system that serves the many that has led participants on both sides to reach out towards each other.</p> <p>This session looks at one such attempt. Through the case of the Kenyan community currencies, we will discuss how social entrepreneurs build on the technological possibilities of cryptocurrencies to develop a monetary system that is embedded in the communities that are to use it.</p>

#	Session	Required readings	Session focus
Module 3: Money Co-design Workshop			
7	Money Co-Design Workshop  June 8, 09.00-12.00 & 13.00-16.00 (double session – 6h)  Ester Barinaga, Anders Ögren, Paul Stankovski & Christian Gehrman	Readings: <ul style="list-style-type: none"> <li>• CCIA. 2015. <b>People Powered Money</b>.</li> <li>• Dodd, N. 2017. Utopian monies: Complementary currencies, Bitcoin, and the social life of money. In Bandelj, Wherry &amp; Zelizer (eds.) <i>Money Talks: Explaining how money really works</i>, ch.14, pp.230-248.</li> </ul> Further readings: <ul style="list-style-type: none"> <li>• Dodd, N. 2015. Utopianism and the Future of Money. In Aspers, P. &amp; Dodd, N. (eds.) <b>Re-imagining Economic Sociology</b>, ch.3.</li> <li>• Hornborg, A. 2017. <a href="#">How to turn an ocean liner</a>: a proposal for voluntary degrowth by redesigning money for sustainability, justice, and resilience. <i>Journal of Political Ecology</i>, 24(1)</li> </ul>	Imagine you have the possibility to re-imagine our monetary system: Where would you start? How would you build it on the new monetary technologies? How would you work to make it more conducive to just and equal societies?  This session puts that question to work in the design of a monetary system for a particular social challenge of your choice. We will work in groups to co-design a monetary system and its governance rules.

#	Session	Required readings	Session focus
<b>Exam</b>			
	Hand-in, no class  June 19, 12.00	Upload your final individual written essay to Canvas.	Examination in this course includes: <ol style="list-style-type: none"> <li>1. Mandatory participation in all course seminars. Students are expected to attend all seminars having read all texts relevant for each seminar, and actively take part of course discussions. Students who are unable to attend any seminar are required to contact the course co-ordinator with a view to undertaking a compensatory assignment.</li> <li>2. Group work – Students will be grouped in interdisciplinary teams. Each group will be asked to design a monetary system for a particular sustainability challenge and present it for the rest of the class. In this presentation, student groups will be asked to use theories from the subfields of organisation studies, innovation and entrepreneurship, and STS seen in the course to argue for the particular monetary and organisational design. Their presentation will be the basis for class discussion in the course's last session.</li> <li>3. Individual written essay; max. length 3,500 words. After the course, students will be asked to choose one case of digital currencies and apply the business administration, engineering and grassroots innovation theories seen in the course to discuss its organisational dimensions as well as to problematise the economic, social and environmental consequences of the way that currency is organising money.</li> </ol> The course is graded on a Pass or Fail basis.