Fundamental Questions on CCPs: A review of the literature $2022 \ update^*$

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January 23, 2023

Draft version

Abstract

This document provides a second, annual, update of the CCP literature survey published in Berndsen (2021). I have added 13 peer-reviewed, academic journal articles which brings the total volume of CCP articles to 211 in comparison to the 2021 update. The added articles have been published in the year 2022, or may have been overlooked in my earlier work, or have been notified by their authors to me. The present document provides the 2022 update on CCP journal dispersion, the citation graph, and the top twenty of most influential articles by number of citations. New is the emerging, positive outcome of the cluster analysis where in previous publications only negative results could be reported. This document and previous updates can be found and downloaded from my website **here**.

1 Conduct of the Review

The scope of this review on CCPs is to some extent subjective, as is any literature survey. Here, the aim is to be exhaustive with respect to the peer-reviewed articles in academic journals, at present the counter stands at 211 articles.¹ To be precise, the scope of the review encompasses all articles published in peerreviewed, academic journals in the English language with at least a quarter of the text devoted to CCP analysis. I have used the following databases and

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¹See Annex A for the full list in approximate chronological order and the bibliography for the alphabetical order. In case I have missed an article on CCPs published in the academic literature or if you have finished a working paper, please email the reference to me, so the database can be kept up-to-date.

search engines: EconLit, RePEc (EconPapers), SSRN (Social Science Research Network), WorldCat and Google Scholar. The cut-off date of the literature review is 31 December 2022.

Many articles which are ultimately accepted for journal publication, first start out as a working paper. In conducting the review, 205 such working papers have been collected by the author.

Out of scope of this article are the numerous documents published by the official or government sector (financial regulators, central banks, international standard setting bodies) and the financial industry. The former are not part of the review as the purpose of their work related to CCPs is to regulate or influence them through their public policy objectives of pursuing financial stability or promoting the safety and efficiency of the financial infrastructure. The latter are not in scope as they can be seen as advocating the interests of a particular CCP, clearing member or the wider industry. So, those publications are out of scope but not for the reason that they would not provide us with useful insights as they often do including some influential speeches by central bankers. Of course, articles of individuals or co-authors working in those sectors who have published in peer-reviewed, academic journals, are in scope.

2 Update on Journals Dispersion

At the time of the cut-off date, 107 different academic journals have been identified as containing one or more articles on CCPs that are in scope (Table 1). From that table, it is clear that the CCP literature is widely dispersed in terms of journals, with one exception, the Journal of Financial Market Infrastructures. This is a journal specialized in FMIs with CCPs as a prominent category of FMI. For easy comparison with the original survey, the situation per April 2020 is displayed in Table 2.

Peer-reviewed Journal	# articles
Annual Review of Financial Economics	2
Banking and Finance Law Review	3
Capital Markets Law Journal	2
Columbia Business Law Review	2
European Business Organization Law Review	3
European Journal of Finance	2
International Journal of Modern Physics C	3
Journal of Financial Market Infrastructures	62
Journal of Applied Corporate Finance	2
Journal of Banking and Finance	8
Journal of Financial Economics	4
Journal of Financial Intermediation	3
Journal of Financial Regulation	2
Journal of Financial Regulation and Compliance	2
Journal of Financial Services Research	2
Journal of Futures Markets	7
Journal of Money, Credit and Banking	3
Journal of Risk Management in Financial Institutions	3
Management Science	4
Operations Research	3
Review of Asset Pricing Studies	2
Virginia Law and Business Review	2
Other academic journals with exactly one CCP article	85
Total number of articles in scope	211

Table 1: Academic journals with CCP article(s) at end 2022

	// / 1
Peer-reviewed Journal	# articles
Banking and Finance Law Review	3
European Journal of Finance	2
International Journal of Modern Physics C	3
Journal of Financial Market Infrastructures	48
Journal of Banking and Finance	6
Journal of Financial Economics	4
Journal of Financial Intermediation	3
Journal of Financial Regulation	2
Journal of Financial Services Research	2
Journal of Futures Markets	4
Journal of Money, Credit and Banking	3
Journal of Risk Management in Financial Institutions	3
Operations Research	3
Review of Asset Pricing Studies	2
Virginia Law and Business Review	2
Other academic journals with exactly one CCP article	72
Total number of articles in scope	162

Table 2: Academic journals with CCP $\operatorname{article}(s)$ in April 2020

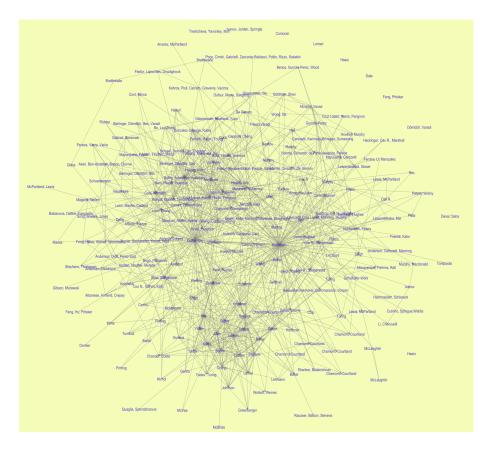


Figure 1: Full Citation Graph CCP Literature

3 Update on the Citation Graph and Cluster Analysis

The full citation graph contains 211 nodes and 1006 links (Figure 1).² Wellconnected articles are displayed as nodes in the centre of the graph, while the isolated nodes in the periphery show articles without any incoming or outgoing references.

The initial analysis of the citation graph in Berndsen (2020) did not yield any meaningful clustering of articles. I have repeated the cluster analysis on the subgraph obtained by deleting the following nodes:

- The node corresponding to the published version of the literature review (Berndsen (2021)) to reduce clutter given the large number of outgoing links and to avoid interference of the survey of the literature with the literature itself.
- All nodes with indegree = outdegree = 0 (twelve), including two nodes which became isolated upon deletion of the literature review in the previ-

 $^{^2\}mathrm{Magnification}$ of Figure 1 to 400% provides good readability of this graph.

ous step. An article corresponding to such isolated node would by definition turn up as a 'cluster' of its own, which is not meaningful.

The subgraph has 198 nodes remaining and is shown in Figure 2. The cluster analysis is subsequently performed on the subgraph of Figure 2. The analysis yields three clusters, displayed in Figure 3 in three colours. It seems that on the basis of this preliminary analysis, the CCP literature may be divided in three parts of similar size which I call henceforth the Central Clearing Mandate Cluster (on the left of Figure 2), the General Cluster (on the right), and the Technical Cluster (on the top). The Central Clearing Mandate (CCM) cluster consists mainly of articles dealing with the G20 policy of the CCM but also contains the early literature such as Bernanke (1990); Edwards (1983); Fenn and Kupiec (1993). In this cluster you can find, on the one hand, articles of critical scholars advocating the legal drawbacks of imposing the CCM and, on the other hand, articles looking from a financial stability standpoint which argue in favour of CCM. A notable misclassification is Duffie and Zhu (2011) which is the most referenced article of all and should logically be a member of the CCM cluster given its main topic. A possible explanation is that many of the references to it come from more recent articles (and that process is still ongoing, see section 4).

Compared to the CCM cluster, the differences between the two other clusters in Figure 3 are not so clear. Both clusters contain the most recent CCP articles (average year of publication is 2017 in both groups). The General cluster tends to include recent papers from a wide variety of journals and they generally discuss multiple topics. The Technical cluster contains mainly papers which focus on a single topic such as margining or anti-procyclicality which is then analysed and discussed in detail. Future updates will hopefully reveal whether this clustering is persistent or needs to be improved.

4 Update on the top 20 Most Influential Articles

The citation subgraph gives the information to update the list of most influential articles. In Table 3 all CCP articles are shown with more than twelve references from other articles (indegree > 12). In comparison to the original list (see Table 4), the top five is pretty stable. Remarkable is the high entrance in this list of Loon and Zhong (2014) with 19 references (up from 7 in 2020). The entries of Cox and Steigerwald (2018) and, even more so, Bignon and Vuillemey (2020) are noteworthy given they were only published recently. If we measure influence by another centrality measure, PageRank, the ranking changes considerably.³ As PageRank assigns some influence to incoming links of nodes that are themselves influential, it is not surprising that some earlier articles are becoming more influential. Good examples of this phenomenon are Bernanke (1990) and Edwards (1983) who come out as the number one and two in terms of PageRank influence.

Planned next update: January 2024

³Note that this was not the case in the original review.

Figure 2: Citation Subgraph CCP Literature (198 out of 211 nodes)

Fledor, Lapsches, Orszäghous - 2018 Aluarez, McParland - 2020 More, Ce, Lan - 2017 Hitsz, Matoloczało, Prepuk, Visal - 2021 Abrozo, Pat - 2016 Bills , Hitler, Hoenour - 2016 Karros, Pielu, Carros, Gaarris, Voorica - 2021 Conl, Minca - 2015 Paddith, Ratan, Young - 2020 Paddith, Ratan, Young - 2020 Huang, Merhaeld, Yu - 2020 Huang, Merhaeld, Yu - 2020 16 Marindi, Rudini, Averie - 2018 Nauero, Ilin - 2020 Berlinger, Danable, Iliet - 2021 Nauero, Iliat, Alexana - 2012 Keepu, Marret , Temauliet - 30/Min , injpace, <u>Mrea - 2016</u> Keepu, Marret , Temauliet - 30/Min , injpace, <u>Mrea - 2016</u> Bo, Uu, Zhang - 2021 Abat, Berr-Abdallah, Brekon, Diorne - 2021 Schoeremann - 2021 Chramani, Glasterman - 2018ynon, Willemey - 2020 Huary, Kim - 2021 Vullemey - 2020 Bolssel, Derifen, Ors, Thesmar - 2017 Durite, Scheicher, Wullemey - 2015 Glasseman, Mosleni, Yuan - 2016 Berlinger, Dömölör, Iles, Varadi - 2016 Cashial, Soramati - 2012 Ison, 20019 - 2014 Mayordono, Posch - 2016 Richter - 2021 Poce, Climint, Gashelli, Zaccaria, Baldacci, Poli lo, Rizzo, Sabaini - 2018 Criz Lopez, Hants, Petigram - 2011 Pereira, Vieira, Vieira - 2018 McParland, Lewis - 2016 Cappori, Cheng - 2018 -2012 Cot 1, Oarth, Kelly-2014 Reng -2017 Lon, Marke, Caton - 2021 -2012 Cot 1, Oarth, Kelly-2014 Cot 2014 Cot Marke, Catons - 2021 -2015 Cot 2014 Cot Market - Market, Ameril, Crepty - <u>2020</u> arous, Jakon, Tompadia - 2018 -2015, Selpenada - 2005 Fortu, Market, Catons - 2013 Glasseman, Wu - 2018 Ament, Crépey - 2017 Cont, Katholm - 2014 Benos, Gunda-Perez, Wood - 2017 Raykou - 2018 Vierg, Ce - 2017 Brat huad k - 2016 Munphy - 2020 Brat huad k - 2011 Berlinger, Dömölör, Ilés - 2019 Goldman, Shen - 2020 Stephens, Thompson - 2014 Magette, Rellen - 2015 Stephens, Thompson - 2014 Cruz Lopez, Hartis, Hutlin, Perignon - 2017 Glass - 2009 Meridaeld, Wallemey - 2021 Jores, Périggoogi, 2013 millinemarn - 2017 Raykou - 2018 Murphy, Vause - 2021 Song, Sowers, Jones - 2014 Feng, Hunes - 2014 Durkur, Marring, Markose, Shaphapini - 2016 Heah, Kelly, Marring, Markose, Shaphapini - 2016 Hiesz, Varail - 2021 Massa - 2016 AGUST SUBACTURE, Kernell, WIPT- 2016 Gumda-Perez - 2021 Murphy - 2012 Ware, Capport, Zhare - 2022 Cereze II., Karimalis, Shreyas, Sumawong - 2019 Priem - 2019 Lawardowska, (as et - 2017 Heading (as et - 2017 Heading et , Cox 6., (bastel - 2017 Heading - August - 2018
 Mc Lauphin - 2018
 Alburgenue, Pentiny, Mari - 2016
 Formes, U. Marcadec - 2019
 Hud. - 2015
 Formes, U. Marcadec - 2019
 Hud. - 2015
 Model
 Model Martins - 2020 De Genaro - 2016 Conl-2015 Brigo, Pallanciri - 2014 Pekts - 2019 Budding, Cox R., Muphy - 2016 Un, Suri - 201 Animoli, Carapella, Carli - 2022 2017 Pe krs. (Wollry - 2019 Lewis , McParland - 2018 Maruyama, Cereze II - 2019 Holden, Houllier, Muphy - 2016 Duffe, 2hu - 2011 Carler, Garrer - 2016 Muphy - 2017 Hayakawa - 2017 Kodnska - 2018 Koeppi, Morrei - 2012 Gemmili - 1994 Domler - 2013 Cerezell, Cruz Lopez, Marving, Muphy - 2019 Edwards - 1983 Filmorg - 2847241 - 2009 Barone-Ade sl. Glannopoulos, Vosper - 2018 Sharker, Balakishnan - 2005 Birgh - 2013 Carlin - 2021 Anderson, Cereze II, Marning - 2019 Cox R.- 2015 U, Chenvelli - 2019 Huhlartemi, Pelers - 2017 Chamono-Courtand - 2010 Lewandowsha, Mai - 2018 Vama, Vimari - 2021 Mire - 2012 Quaglia, Spendzharous - 2021 Plats - 2017 Bemarke - 1990 Valar-2013 NCKamara-2014 Turbul - 2014 charg - 2014 Yasar - 2014 Ros - 2013 Cureas - 2016 Pinnerg - 2012 Cox R., Skiperwald - 2016 Broh, Tulny - 2018 Schulhokr-Woh - 2021 Gentlo - 2019 Pirrong - 2020 Herkel - 2020 Baker - 2021 Herkel - 2020 Bales, Craine - 1999 CUP - 2010 Muphy, Macdonald - 2016 Chamoro-Courtand - 2017 Chamoro-Courtand - 2016 Lewis, McPartand - 2017 Tuting - 2019 Krosarer - 2000 Tompaldis - 2018 Nichol - 2013 Lehmarn - 2022 Chanomo-Courtand - 2012 Wolkoff, Werner - 2010 Narrou - 2017 Chanono-Courtand - 2016 Chanomo-Courtand - 2019 Kroszner - 1999 Chander, Costa - 2010 McBride - 2010 Tuting - 2021 Pelrce - 2016 Squire - 2014 Yadaw, Turing - 2016 Sagualo - 2017 Lew In- 2008en-2017 Allen-2012 McVea - 2016 McLaughlin - 2021 Kress - 2011 GHTh-2012 Baker - 2013 Baker - 2019 Sagualo - 2020 Rausser, Balson, Slevens - 2010 Baker - 2016 Johnson - 2013 Greenberger - 2012

Figure 3: Cluster Analysis Citation Subgraph

Domler - 2013

Barone Adesi, Giamopoulos, Vosper - 2018 Ghamani, Glasseman - 2004 Vullemey - 2020 Elector Lapschies, Országhová - 2018 Lin, Sudi - 2018 Lin, Sudi - 2018 Hwarg, Kim - 2021 Vullemey - 2020 Lin, Sudi - 2020 Staffoldi, Carapella, Carli - 2022 Staffoldi, Carapella, Carli - 2022 Staffoldi, Carapella, Carli - 2022 Lin, Sudi - 2020 Li Alvarez, McPartland - 2020
 Cox R., Steigerwald - 2016
 Contra-2015
 Contra-2015

 Bindh - 2017
 Wong, Ge, Lam - 2017
 Wong, Ge, Lam - 2017

 Jaide - 2017
 Abrurzo, Park - 2016
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 Martins - 2020
 De Genaro - 2016

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Curb - 2010 - 2010 Bo, Lui, Zhang - 2021 Man, Perignon - 2017 Bo, Lui, Zhang - 2021 Man, Perignon - 2018 Man, Perignon - 2018 Man, Annahy - 2016 Marshall, Kurhurhy - 2016 Mansahi, Kurhurhy - 2016 Mansahi, Kurhurhy - 2016 Mansahi, Kurhurhy - 2016 Mansahi, Kurhurhy - 2018 Mang, Kinghen - 2018 Mang, Ki
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 Pazza - 2021
 Control - 2012
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 Li, Cheruvell - 2019
 Fundamenu, Freiter - 201V
 Cerezetti, Kalimalis, Sineyas, Sumawong - 2019
 Goldman, Shen - 2020

 McLaughlin - 2018
 Abuquerue, Perkins, Rafi - 2016
 Vicenset, Li, Manuellis, Maning, Munty - 2019
 Goldman, Shen - 2020

 McLaughlin - 2018
 Ringh-2015
 France, Kain - 2016
 Vicenset, Li, Manuellis, Sineyas, Sumawong - 2015
 Goldman, Shen - 2020

 McLaughlin - 2018
 Cox K, Sheighewaid - 2016ac, -2019
 Vicenset, Li, Manuellia, Pereira - 2015
 Glasserman, Wu - 2018

 Tumon - 2014
 Cox K, Sheighewaid - 2018ac, -2019
 Corezetti, De Geniao - 2017
 Murphy - 2012
 McPartland, Lewis - 2016 wupury, meuzuriata - zu to truent - zu to Manning, Hughes - 2016 Heckinger, Cox R., Manshall - 2046 Ullier, Murphy - 2017 Benos, Gurrola-Perez, Wood - 2017 Nanov - 2017 Benos, Gurrola-Perez, Wood - 2017 Lewis, McPartland - 2017 Turing - 2019 Peters'- 2019 Budding, Cox R., Murphy - 2016 Raykov - 2018 Wong, Ge - 2019 althwate - 2016 Raykov - 2018 Wong, Ge - 2017 althwate - 2016 Cox R. Shalahwate - 2011 Cox R. Shalahwate - 2011 Cox R. Shalahwate - 2013 Cont - 2012 Cont - 2015 Cont - 2015 Armenti, Crépey - 2017 Cont, Kokholm - 2014 Silve, Wittmer, Woodman - 2013 Stephens, Thompson - 2014 Massa - 2016 McPartland, Lewis Tompaldis - 2018 Plata - 2017 Peters, Wolliny - 2019 Lewis, McPartiand - 2018 Naming - 2019 Cox R. - 2019 Gunga-Perez - 2021 Anderson, Cerezetti, Manning - 2019 Cox R. - 2015
 Singh - 2013
 Canini - 2021
 Kozinska - 2018
 Bernanke - 1990 Duffle, Zhu - 2011 Carter, Garner - 2016 urphy - 2017 Edwards - 1983 Pirrong - Bandi - 2009 Pirrong - Bandi - 2009 Gemmill - 1994 Priem - 2019 Varma, Virmani - 2021 Li, Cheruvelil - 2019 Huhtaniemi, Peters - 2017 Nichol- 2013 Pirrong - 2020 2016 McBride - 2010 Milline - 2021 Chander, Osta - 2010 Quaglia, Spendzharova - 2021 Kroszner - 2000 Bates, Craine - 1999 Chamorro-Courtland - 2017 Chamorro-Courtland - 2016 Murphy, Macdonald - 2016 Lehmann - 203Ramorro-Countland - 2012 Chamorro-Courtland - 2016 Wolkoff, Werner - 2010 Chamorro-Courtland - 2019 Peirce - 2016 Kroszner - 1999 McVea - 2016 McBride - 2010 Turing ~ 2021 Saguato - 2017 McLaughlin - 2021 Greenberger - 2012 Griffith - 2012 Baker - 2013 Baker - 2019 Saguato - 2020 Baker - 2016 Rausser, Balson, Stevens - 2010

Author(s)	Title	Cited	PR
Duffie and Zhu (2011)	Does a Central Clearing Counterparty Reduce Counterparty Risk?	87	11
Duffie et al. (2015)	Central Clearing and Collateral Demand	35	51
Bernanke (1990)	Clearing and Settlement during the Crash	33	1
Cont and Kokholm (2014)	Central clearing of OTC derivatives: Bilateral vs multilateral netting	25	15
Bliss and Steigerwald (2006)	Derivatives Clearing and Settlement:	23	7
()	A Comparison of Central Counterparties and Alternative Structures		
Kroszner (1999)	Can the Financial Markets privately regulate risk?	20	5
· · · ·	The development of derivatives clearing houses		
	and recent over-the-counter innovations		
Roe (2013)	Clearinghouse Overconfidence	20	27
Loon and Zhong (2014)	The impact of central clearing on counterparty risk, liquidity,	19	46
	and trading: Evidence from the credit default swap market		
Biais et al. (2016)	Risk-Sharing or Risk-Taking? Counterparty Risk,	19	90
× ,	Incentives, and Margins		
Kress (2011)	Default Swaps, Clearinghouses, and Systemic Risk: Why Centralized	18	12
	Counterparties Must Have Access to Central Bank Liquidity		
Griffith (2012)	Governing Systemic Risk: Towards a Governance Structure	18	25
	for Derivatives Clearinghouses		
Menkveld (2017)	Crowded Positions: An Overlooked Systemic Risk	16	84
	for Central Clearing Parties		
Koeppl et al. (2012)	Optimal Clearing Arrangements for Financial Trades	15	23
Cruz Lopez et al. (2017)	CoMargin	15	76
Edwards (1983)	The Clearing Association in Futures Markets: Guarantor and Regulator	14	2
Allen (2012)	Derivatives Clearinghouses and Systemic Risk:	14	17
	A Bankruptcy and Dodd-Frank Analysis		
Manning and Hughes (2016)	Central counterparties and banks: vive la difference	14	57
Carter and Garner (2016)	Skin in the game: central counterparty risk controls and incentives	14	58
Bignon and Vuillemey (2020)	Failure of a clearinghouse: empirical evidence	14	140
Cox and Steigerwald (2018)	A CCP is a CCP is a CCP	13	105
Articles are ordered on the number of	citations. Only articles referenced more than 12 times are shown.		

PR denotes the PageRank, a well-known centrality measure, lower number means more influence.

Table 3: The 20 Most Influential CCP Articles (as of 2022)

Author(s)	Title	Cited
Duffie and Zhu (2011)	Does a Central Clearing Counterparty Reduce Counterparty Risk?	74
Bernanke (1990)	Clearing and Settlement during the Crash	26
Duffie et al. (2015)	Central Clearing and Collateral Demand	22
Cont and Kokholm (2014)	Central clearing of OTC derivatives: Bilateral vs multilateral netting	20
Bliss and Steigerwald (2006)	Derivatives Clearing and Settlement:	19
	A Comparison of Central Counterparties and Alternative Structures	
Kroszner (1999)	Can the Financial Markets privately regulate risk?	16
	The development of derivatives clearing houses	
	and recent over-the-counter innovations	
Kress (2011)	Default Swaps, Clearinghouses, and Systemic Risk: Why Centralized	16
	Counterparties Must Have Access to Central Bank Liquidity	
Roe (2013)	Clearinghouse Overconfidence	14
Griffith (2012)	Governing Systemic Risk: Towards a Governance Structure	14
	for Derivatives Clearinghouses	
Edwards (1983)	The Clearing Association in Futures Markets: Guarantor and Regulator	11
Allen (2012)	Derivatives Clearinghouses and Systemic Risk:	11
	A Bankruptcy and Dodd-Frank Analysis	
Manning and Hughes (2016)	Central counterparties and banks: vive la difference	11
Articles are ordered on the number o	f times cited by the 162 articles identified. Only articles referenced more than 10 times are s	hown.

Table 4: The Most Influential CCP Articles in the original review (April 2020)

Annex A CCP Literature in chronological order

In this annex all 212 articles identified as falling within scope of the review (see section 1) are listed below in approximate chronological order. The full reference can be found in the bibliography.

1931 - 2010

Loman (1931); Edwards (1983); Bernanke (1990); Fenn and Kupiec (1993); Gemmill (1994); Dale (1998); Bates and Craine (1999); Kroszner (1999, 2000); Bliss and Steigerwald (2006); Bandi (2009); Glass (2009); Culp (2010); Hachmeister and Schiereck (2010); Chander and Costa (2010); Chamorro-Courtland (2010); McBride (2010); Rausser et al. (2010); Cruz Lopez et al. (2011); Shanker and Balakrishnan (2005);

2011 - 2015

Duffie and Zhu (2011); Kress (2011); Wolkoff and Werner (2011); Braithwaite (2011); Galbiati and Soramaki (2012); Hull (2012); Griffith (2012); Greenberger (2012); Allen (2012); Chamorro-Courtland (2012); Pirrong (2012); Milne (2012); Biais et al. (2012); Arnsdorf (2012); Koeppl et al. (2012); Murphy (2012); Koeppl and Monnet (2013); Singh (2013); Anderson et al. (2013); Slive et al. (2013); Dømler (2013); Yadav (2013); Johnson (2013); Nichol (2013); Corcoran (2013); Roe (2013); Jones and Perignon (2013); Levitin (2013); Baker (2013); Hsiao (2013); Gibson and Murawski (2013); Cox et al. (2014); Pirrong (2014); Stephens and Thompson (2014); Feng et al. (2014); Cont and Kokholm (2014); Feng and Pritsker (2014); Brigo and Pallavicini (2014); Turnbull (2014); McNamara (2014); Lin and Surti (2014); Hsiao (2014); Chang (2014); Loon and Zhong (2014); Song et al. (2014); Yadav (2014); Squire (2014); Singh (2015); Cox (2015a); Wendt (2015); Mägerle and Nellen (2015); Cox (2015b); Vicente et al. (2015); Duffie et al. (2015); Lewandowska (2015); Feng and Hu (2015); Lubben (2015); Ghamami (2015); Cont (2015);

2016 - 2020

Chamorro-Courtland (2016a); Cont and Minca (2016); Manning and Hughes (2016); Cox and Steigerwald (2016); Carter and Garner (2016); Albuquerque and Perkins (2016); Budding et al. (2016); Murphy and Macdonald (2016); McPartland and Lewis (2016); Holden et al. (2016); Aguiar et al. (2016); Abruzzo and Park (2016); De Genaro (2016); Glasserman et al. (2016); France and Kahn (2016); Heath et al. (2016); Mcvea (2016); Massa (2016); Chamorro-Courtland (2016b); Amini et al. (2016); Berlinger et al. (2016); Biais et al. (2016); Braithwaite (2016); Yadav and Turing (2016); Guseva (2016); Baker (2016); Lewandowska and Glaser (2017); Wong et al. (2017); Murphy (2017); Heckinger et al. (2017); Ivanov (2017); Wong and Ge (2017); Houllier and Murphy (2017); Benos et al. (2017); Cutinho et al. (2017); Vicente et al. (2017); Lewis and McPartland (2017); Huhtaniemi and Peters (2017); Boissel et al. (2017); Cruz Lopez et al. (2017); Ghamami and Glasserman (2017); Deng (2017); Menkveld (2017); Lubben (2017); Chamorro-Courtland (2017); Garratt and Zimmerman (2017); Armenti and Crépey (2017); Plata (2017); Saguato (2017); Hayakawa (2017); Marshall et al. (2018); Raykov (2018b); Singh and Turing (2018); Baklanova et al. (2018); McLaughlin (2018); Fiedor et al. (2018); Lewandowska and Mai (2018); Raykov (2018a); Cox and Steigerwald (2018); Lewis and McPartland (2018); Tompaidis (2018); Barone-Adesi et al. (2018); Poce et al. (2018); Kozinska (2018); Capponi and Cheng (2018); Silva et al. (2018); Glasserman and Wu (2018); Cerezetti et al. (2019a); Maruyama and Cerezetti (2019); Andersen and Dickinson (2019); Anderson et al. (2019); Turing (2019); Li and Cheruvelil (2019); Ferrara et al. (2019); Dömötör and Váradi (2019); Cerezetti et al. (2019b); Genito (2019); Dufour et al. (2019); Priem (2018); Chamorro-Courtland (2019); Rec (2019a); Baker (2019); Rec (2019b); Peters (2019); Peters and Wollny (2019); Berlinger et al. (2019a); Henkel (2020); Paddrik et al. (2020); Hwang

and Kim (2020); Alvarez and McPartland (2020); Murphy (2020); Treshcheva et al. (2020); Desai and Saha (2020); Martins (2020); Bignon and Vuillemey (2020); Albanese et al. (2020); Goldman and Shen (2020); Vuillemey (2020); Huang et al. (2020); Pirrong (2021); Mayordomo and Posch (2016); Peirce (2016); Saguato (2020);

2021

Menkveld and Vuillemey (2021); Bo and Zhang (2021); León et al. (2021); Affinito and Piazza (2021); Akari et al. (2021); Baker (2021); Canini (2021); Cucic (2022); Berlinger et al. (2019b); Berndsen (2021); Hwang and Kim (2021); Schoenemann (2021); Richter (2021); Friesz and Váradi (2021); Kahros et al. (2021); McLaughlin (2021); Ivanov et al. (2021); Turing (2021); Quaglia and Spendzharova (2021); Friesz et al. (2021); Murphy and Vause (2021); Gurrola-Perez (2021); Schulhofer-Wohl (2021); Varma and Virmani (2021)

2022

Hattori (2022); González-Urteaga and Rubio (2022); Antinolfi et al. (2022); Lehmann (2022); Wang et al. (2022)

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