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Metadata Schema x-econ Repository

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Content

1 Introduction

1.1 Introduction to x-econ

Since May 2017, the x-hub project partners OVGU Magdeburg, University of Vienna, and GESIS dispose of a new repository, called x-econ (https://x-econ.org). The service is dedicated to all experimental economics research projects to disseminate user-friendly archiving and provision of experimental economics research data.

The repository x-econ contains all necessary core functionalities of a modern repository and is in a continuous optimization process aiming at functionality enhancement and improvement. x-econ is also one pillar of the multidisciplinary repository x-science (https://x-science.org).

The present documentation, which is primarily based on the GESIS Technical Reports on datorium 2014|03[1] and da|ra 4.0[2] [3] [4] [5] [6], lists and explains the metadata elements, used to describe research information.

1.2 Goals and functionality

The following aspects were essential in the development of x-econ:

- The one-to-one adoption of metadata elements of existing metadata schemata of GESIS was not adequate for many metadata elements in x-econ because experimental economic research uses substantially other technical terms compared to empirical survey research. Even supposedly similar categories cannot be used in the same way in the context of global standardization (DDI[7], Dublin core). In each of these cases, new metadata elements had been developed.
- The infrastructure should offer users low-threshold access.
- A DOI[8]-reference, issued by da|ra, allows the citing of the dataset immediately and represents a new, so far not yet existing quality for data of behavioral and experimental economics. The experience of many researchers towards the DOI-registration of their literature publications is built on and extended here.
- The mandatory fields required for DOI-registration, based on DDI-standards, are adopted from da|ra and supplemented by some additional metadata fields developed based on expert discussions and x-econ's mapping with Xresearch[9].

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[1] Zenk-Möltgen, W., & Linne, M. (2014). Metadatenschema zu datorium - Data Sharing Repositorium. GESIS - Technical Reports 2014/03. Köln: GESIS. http://www.gesis.org/fileadmin/upload/forschung/publikationen/gesis_reihen/ gesis_methodenberichte/2014/TechnicalReport_2014-03.pdf.

[2] Koch, U., Akdeniz, E., Meichsner, J., Hausstein, B., & Harzenetter, K. (2017). GESIS Papers 2017|25, da|ra Metadata Schema, Documentation for the Publication and Citation of Social and Economic Data, Version 4.0, https://doi.org/10.4232/10.mdsdoc.4.0

[3] https://www.da-ra.de

[4] Hausstein, B., Zenk-Möltgen, W., Wilde, A., & Schleinstein, N. (2011). da|ra Metadatenschema Version 1.0. GESIS Working Papers 2011/14. Mannheim: GESIS. doi: http://dx.doi.org/10.4232/10.mdsdoc.1.0.

[5] Hausstein, B., Schleinstein, N., Koch, U., Meichsner, J., Becker, K., & Stahn, L.-L. (2014). da|ra Metadata Schema: Version 3.0. GESIS - Technical Reports 2014/07. doi: http://dx.doi.org/10.4232/10.mdsdoc.3.0.

[6] Helbig, K., Hausstein, B., Koch, U., Meichsner, J., & Kempf, A.O. (2014). da|ra Metadata Schema: Version 3.1. GESIS - Technical Reports 2014/17. Köln: GESIS. doi: http://dx.doi.org/10.4232/10.mdsdoc.3.1.

[7] https://www.ddialliance.org

[8] https://www.datacite.org/dois.html

[9] Wypior, H., Heimke, C., & Weimann, J. (2010). xresearch.org [Computer software]. Funded by EFRE. Retrieved from xresearch.org

- The x-econ metadata schema was developed based on the requirements of the research community. The minimal metadata schema of x-econ was designed for comprehensive archiving of all experimental economic research datasets (input-maximization), while the more detailed metadata schema was developed for in-depth re-use (output-maximization). The data provider herself decides on the depth of documentation of her data.

Purpose and location of x-econ:

- Within the project x-hub: x-econ is the first repository in the field of data of experimental economics and is tailored to the needs of research communities.
- x-econ meets the function of minimal- and optimum archiving standards.
- Its position within the experimental economics community is also expressed by the fact, that the German Association for Experimental Economic Research (GfeW)[10] homepage links directly to x-econ.

The current version of x-econ already represents the targeted minimal standard with a user-friendly interface that allows for more comprehensive documentation of the data if required. Following user requests for discipline-specific documentability, the metadata fields were extended by some metadata fields from the social sciences. Thus, users can archive sociological experimental data already in x-econ.

According to the x-hub grant proposal, data from classEx[11], a software for conducting interactive surveys and classroom experiments, can be uploaded directly to the x-econ repository.

1.3 Technical Basis

Technically, x-econ runs on a Linux-Server with Ubuntu[12] as a virtual machine (VM) in the network architecture of GESIS. DSpace[13] and Vaadin-Framework[14] are used as systems. DSpace is a free software for operations of document servers, written in Java and JSP and uses a relational database.

DSpace was chosen because this software is widely used for document storage, is fully accepted in the scientific community, and GESIS already has extensive experience with DSpace. In addition, DSpace provides internal, collaborative curation workflows to communicate between curators and with the submitter of research data to foster qualitative research metadata. For the development of x-econ's server architecture on the programming side, the software Git is used for distributed version control of files. This is supported by GitLab[15], a web version control application for software projects based on Git. GitLab also serves the purpose of task management between managers, developers, and testers (agile software development).

1.3.1 Modular architecture

x-econ is based on a new modular architecture, which is, on the one hand, more flexible and efficient in development, operation, and maintainability, and on the other hand, it can adapt to the demands of the users in order to provide a user-friendly portal.

The modular architecture (see figure 1) is structured as follows:

The data repository is stored with a current DSpace-Version. DSpace provides decoupled access to workflows and data via a REST-interface. By using this REST-interface, the user interface can be imple-

[10] https://gfew.de/

[11] https://classex.de/

[12] https://www.ubuntu.com

[13] http://dspace.org

[14] http://dspace.org

[15] https://gitlab.com

mented outside DSpace with modern UI-Frameworks such as AngularJS or Vaadin. For x-hub, the Vaadin framework was selected based on an internal evaluation. Due to the modularization of data storage and UI there is the possibility to replace the DSpace previously used with other repository software, like DataVerse. This means that the service is adaptable and sustainable in the future. Another component is an ElasticSearch, which will be used for general searching. The individual portals (x-econ, x-science) differ according to three criteria:

- the underlying metadata schema
- the portal layout
- the single- or two-stage creation process.

By using the new UI-Framework and the REST-interface these criteria can now be implemented more efficiently.

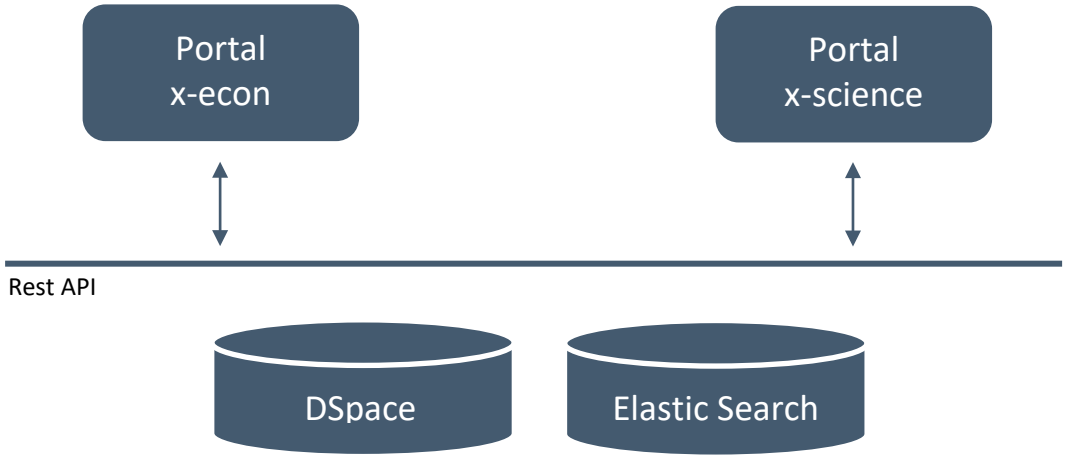

Figure 1: Modular architecture

1.4 New metadata fields in x-econ

For the x-econ metadata schema, the da|ra metadata fields of version 4.0 were adopted. Additional x-econ metadata elements were newly developed and integrated (see 2.2 x-econ metadata schema).

2 Metadata schema

The purpose of the x-econ metadata schema is to provide a meaningful description of each dataset based on structured metadata, which can be used for documentation, searchability, and citation of the archived materials.

2.1 x-econ metadata

Table 1 contains a detailed description of all metadata elements that must (mandatory element) or can (recommended element) be specified when uploading research information to x-econ. Mandatory elements are marked with M. However, data providers are generally advised to fill in as many fields as possible.

All metadata are provided in English only. Data providers should provide metadata information in English.

The metadata schema of x-econ follows the structure of the metadata schema of da|ra version 4.0.

The attribute Occurrence (Occ) specifies how many instances an element can have:

0-n = optional and repeatable (element may not occur at all (0), once, or several times)
0-1 = optional, but not repeatable (element may not occur at all or once)
1-n = necessary and repeatable (element must occur at least once (1) and can occur several times)
1 = required but not repeatable (element must occur exactly once)

There exist several administrative elements for quality assurance and control of each publication. If a publication is reported, the curators are informed by email. Two curators check the data publication and manually approve it. Only then the data publication is visible in x-econ.org. The visibility of the dataset itself depends on the embargo that was chosen by the data provider.

2.2 x-econ metadata schema[16]

Legend

Container	=	Contains thematically related metadata
M	=	Required/Mandatory (M)
Designation	=	Designation in Web-Interface of x-econ
x-econ sequence	=	Newly added metadata fields; No. 0 to 99 da|ra sequences; No. 100 to 199 – newly added x-econ metadata

Table 1: x-econ metadata schema

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
1	1	resourceType	Predefined terms to provide information about the type of resource being registered to differentiate between registered resources.	M	1	Only dataset allowed. See 2.3.1 Controlled list: Resource Type	
3	3	resourceIdentifier	Container element for a resource identifier, which includes a unique identifier and a version number to identify the resource.		0-1		
3.1	3.1	identifier	The identifier is a unique internal value for the registered resource provided by the publication agent to disambiguate between resources.		1	Example: database ID	
3.2	3.2	currentVersion	A version number, which is a unique sequence of numbers, can be provided for the registered resource as a reference that changes have been made between versions.		0-1	Example: Version 1.0.0	
4	4	titles	Container element to provide information about the main titles of the registered resource.		1		
4.1	4.1	title	Container element for one specific title.		1-n		
4.1.2	4.1.2	titleName	A name or title of the registered resource.	M	1	Title of this dataset	The title should describe clearly the contents of the dataset.
7	7	creators	Container element to provide information about a person, e.g., researchers involved in producing the registered resource or an institution responsible for the substantive and/or intellectual content of the registered resource.		1	Authors	
7.1	7.1	creator	Container element to provide information about a person (author)		1-n	Other than in da|ra 4.0 only person is allowed.	
7.1.1	7.1.1	person	Container element to provide information about a person (author).		1		

[16] Koch, U., Akdeniz, E., Meichsner, J., Hausstein, B., & Harzenetter, K. (2017). GESIS Papers 2017|25, da|ra Metadata Schema, Documentation for the Publication and Citation of Social and Economic Data, Version 4.0, https://doi.org/10.4232/10.mdsdoc.4.0

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
7.1.1.1	7.1.1.1 and 7.1.1.2	firstName and middleName	The first name of a person (author) and the middle name of a person (author).	M	1	First name	Enter the author's first (and middle) name.
7.1.1.3	7.1.1.3	lastName	The last name of a person (author).	M	1	Last name	Enter the author's last name. If there are more than one authors to the dataset, you may add more entry fields by clicking on the "Add author" button.
100.1		emailAddress	The e-mail address of a person (author)	M	1	E-mail	Enter the author's e-mail address. This should be the address at which the author wishes to be contacted by the x-econ team regarding inquiries about the dataset. The e-mail address will not be published!
7.1.1.4	7.1.1.4	personIDs	Container element to provide information about a unique identifier of the person and the name of the schema identifier to disambiguate individuals of similar names.		0-1		
7.1.1.4.1	7.1.1.4.1	personID	Container element to provide information about a person's unique identifier.		1-n	Several personIDs may be provided.	
7.1.1.4.1.1	7.1.1.4.1.1	identifierURI	Person ID: The value of a formally registered unique identifier.		1	Persistent Identifier Unique persistent identifier of the author Example: ISNI ID: 5859 1764 (Heiko Peters). (e.g., ORCID https://orcid.org, ISNI http://www.isni.org)	Fill in the author's persistent digital identifier. A persistent digital identifier is a unique permanent URL. Through the use of a persistent digital identifier, every published work can be unambiguously attributed to its creator. We thus recommend you to fill in the author's persistent digital identifier to ensure the unambiguous connection between creator and dataset. Providers of a persistent digital identifier are e.g., ORCID (www.orcid.org) or ISNI (www.isni.org). e.g., persistent digital identifier from ORCID looks like this: orcid.org/0000-0009-4660-9818.
7.1.1.4.1.2	7.1.1.4.1.2	identifierSchema	The name of the schema the identifier is related to.	M if identifier URI is used	1	Examples: ORCID, VIAF, GND, etc.	
7.1.1.5	7.1.1.5	affiliation	Container element to provide information about the organizational or institutional connection of a person. The affiliation should reflect the person´s current and/or primary employment.		0-1		

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
7.1.1.5.1	7.1.1.5.1	affiliationName	The name of the organization or institution a person is affiliated to.		1	Institution/University A list with institutions is provided after the user fills in 3 letters.	Enter the author's (main) affiliation. You can either do a separate entry or choose one from the list.
8	8	dataURLs	Container element to provide information about the URL or URN (a reference to a web resource that specifies its location) linking to the registered resource.	M	1		
8.1	8.1	dataURL	An URL or URN (a reference to a web resource that specifies its location) linking to the registered resource.		1-n	Several dataURLs may be provided.	
9	9	doiProposal	A persistent interoperable identifier (=DOI) a publication agent suggests for identification purposes of the registered resource.	M	1	DOI Valid DOI Syntax according the standard, see doi.org	
10	10	publicationDate	Container element to provide information about the date the registered resource was published or is going to be published.	M	1		
10.1	10.1	date	The publication day, month and year of the registered resource submitted by the publication agent.		1	You may provide a complete calendar date.	
13	13	availability	Container element to classify or describe availability conditions of the registered resource.		0-1		
13.3	13.3	embargoDate	Information about the end date of access restrictions in case an embargo period has been in effect.		0-1	Embargo Allowed value is a valid date expressed in the format YYYY-MM-DD	
14	14	rights	Container element to provide information about legal principles or fundamental normative rules about what is allowed of people or owed to people in regards to the registered resource.	M	1		
14.1	14.1	licenseType	Predefined terms to provide information about different types of creative commons licenses to allow creators to maintain copyrights on their works and clarify what others can do with content licensed with one of those licenses.		1	License See 2.3.2 Controlled list: License	Licenses allow you to establish the terms of use for the intellectual property that you make publicly available. For instance, you may want your content to be used exclusively for non-commercial purposes or perhaps you have an interest in prohibiting the distribution or publication of modified materials from your data. Whichever your particular needs, a license protects your content from improper usage and protects you legally from the usage of your content by third parties.

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
17	17	classifications	Container element to provide information about a multidisciplinary or discipline-specific system for hierarchically classifications. At the same time, classifications branch out into the special knowledge areas out of a few main compartments.		0-1		
17.1	17.1	classification	Container element for internal and external classifications.		1-n		
17.1.1	17.1.1	classificationInternal	Container element for the internal classification system provided by da|ra (Classifications: Journal of Economic Literature (JEL), ZA, GESIS).		0-1		
17.1.1.1	17.1.1.1	schema	The name of the internal schema used to differentiate between classification systems describing the topical coverage of the registered resource.		1	Here only JEL (Journal of Economic Literature) Classification	
17.1.1.2	17.1.1.2	identifiers	Container element to provide information about the unique identifier of the internal schema.		1		
17.1.1.2.1	17.1.1.2.1	identifier	The identifier is a unique internal value of the internal schema to disambiguate classification systems.		1-n	JEL code (Journal of Economic Literature) Example: C92, D44	Enter up to 6 JEL codes that best describe the content of the dataset. The different JEL Codes and a JEL Code application guideline can be found here: https://www.aeaweb.org/jel/guide/jel.php You can either enter the JEL code seriatim by using the enter key after each entry or you can enter several codes at once separated by a comma and then press the enter key to confirm (e.g., C, L, D4, F6, H41). Remove a selected item by clicking on it.
17.1.2	17.1.2	classificationExternal	Container element to provide language-dependent information about a classification system provided by the publication agent.		0-1		
17.1.2.2	17.1.2.2	classificationSchema	The name of the external schema used to differentiate between classification systems a publication agent provides to describe the topical coverage.		1		
17.1.2.3	17.1.2.3	terms	Container element to provide information about the subject class.		1		

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
17.1.2.3.1	17.1.2.3.1	term	The subject class from the external classification system a publication agent uses to describe the topical coverage.	M if classificationScheme is used	1-n	Game classification See 2.3.4 Controlled list: Game classification	Specify the game-theoretic classification of the experiment that generated the dataset. Choose up to 6 terms by selecting them from the dropdown menu. Remove a selected item by clicking on it.
101.1		classificationOthers	Free-text field to provide further classification information.		0-n	Further classification information that is not included in the controlled list.	
101.2		scientificDiscipline	Main scientific discipline to which the content/topic of the dataset relates to.		0-1	Scientific discipline See 2.3.3 Controlled list: Scientific Discipline	Define the main scientific discipline to which the content/topic of the dataset relates to. You can either do a separate entry or choose one from the list.
101.3		topicSpecification	Topic specification of research data and the area of application.		0-n	Topic specification See 2.3.5 Controlled list: Topic specification	Define the general topic(s) that best describe the dataset. Choose up to 6 terms by selecting them from the dropdown menu. Remove a selected item by clicking on it.
102.1		designDecisions	Information about the experimental design.		0-n	Design decisions See 2.3.9 Controlled list: Design decisions	State all relevant elements of your experimental design by choosing them from the dropdown menu. Remove a selected item by clicking on it.
102.2		Incentive	Information about the incentives used in the experiment.		0-n	Incentives See 2.3.10 Controlled list: Incentives	Specify whether and which kind of monetary or non-monetary incentives were offered to participants for participating in the experiment. You may choose one or more options from the dropdown menu. Remove a selected item by clicking on it.
102.3		Interaction	Information about the interaction type in the experiment.		0-n	Interactions See 2.3.11 Controlled list: Interactions	State the kind of interactions that participants were faced with in the experiment by choosing an option from the dropdown menu. Remove a selected item by clicking on it.
102.4		professionalStatusParticipants	General classification of participants professional status (e.g., students)		0-n	Professional status of participants See 2.3.12 Controlled list: Professional status of participants	State the participants occupation (e.g., students, unemployed) by choosing an option from the dropdown menu. You may choose several options if applicable. Remove a selected item by clicking on it.

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
102.5		rounds	Number of rounds played in the experiment.		0-1	Rounds	State the maximum number of rounds played by the participants in the experiment independent of whether different games were played in the experiment. For instance: all participants play a repeated public goods game with 10 rounds and subsequently half of them play an ultimatum game with 5 rounds. Hence, the right maximum number of rounds played by the participants in the experiment would be 15.
102.6		experimentalSoftware	Software used in experiment.		0-n	Experimental Software Example: z-Tree, classEx See 2.3.13 Controlled list: Experimental Software	State the software(s) used to conduct the experiment(s) by choosing one or more options from the dropdown menu or typing it in, should it not be on the list. Remove a selected item by clicking on it.
102.6.1		experimentalSoftware-Freetext	A free-text field to describe the software used in the experiment.		0-n		
102.7		earningsRange	Container element to provide information about the earnings range in the experiment.		0-1	Earnings range in the experiment	Specify the participants earnings range in the experiment from lowest to highest. Select the payoff currency by choosing an option from the dropdown menu. Should your currency not be listed, please convert the amounts into one of the listed currencies.
102.7.1		minimum	The lowest income in the experiment.		0-1	Minimum	
102.7.2		maximum	The highest income in the experiment.		0-1	Maximum	
102.7.3		mean	The mean income in the experiment.		0-1	Mean	
102. 8		currency	The currency used to describe the earnings range.	M if minimum, maximum or mean is used	0-1	Currency Example: Euro, US Dollar See 2.3.16 Controlled list: Currency	

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
102.9		showUpFee	Container element to provide information about the show-up fee of the participants in the experiment.		0-1	Show-up fee	Specify the participants' unconditional payment for showing up to participate in the experiment; that is, the fee the participants received just for coming to the experiment. Select the payoff currency by choosing an option from the dropdown menu. Should your currency not be listed, please convert the amount into one of the listed currencies.
102.9.1		amount	The amount of the show-up fee.		0-1	Amount	
102.10		ageRange	Container element to provide information about the age range of participants.		0-1	Age range of participants	
102.10.1		minimum	Age of the youngest participant in the experiment.		0-1	Minimum Value >= 1 and <= 140	State the age of the youngest participant in the experiment. Minimal age must be between 1 and 140 and smaller or equal to maximal age.
102.10.2		maximum	Age of the oldest participant in the experiment.		0-1	Maximum Value >= 1 and <= 140	State the age of the oldest participant in the experiment. Maximal Age must be between 1 and 140 and greater or equal to Minimal Age.
102.10.3		mean	The mean age of the participants in the experiment.		0-1	Mean Value >= 1 and <= 140	State the mean age of the participants in the experiment. Mean Age must be between 1 and 140 and between Maximal Age and Minimal Age.
18	18	controlledKeywords	Container element to provide information about a classification of the terminology to classify or index the registered resource.		0-1		
18.1	18.1	controlledKeyword	Container element for controlled keywords.		1-n		
18.1.1	18.1.1	keywordSchemaType	The name of the internal schema used to differentiate between keywords to describe the topical coverage.		1	Content: x-econ keywords of experimental economics	
18.1.2	18.1.2	identifiers	Container element to provide information on a unique identifier of the internal schema.		1		
18.1.2.1	18.1.2.1	identifier	Keywords of experimental economics related to the data.		1-n	Keywords See 2.3.6 Controlled list Keywords	Choose up to 8 keywords that best describe the content of the dataset. You can either do separate entries or choose them from the list. Remove a selected item by clicking on it.

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
19	19	freeKeywords	Container element to provide language-dependent information about the content of the registered resource if the controlled list of classifications cannot provide enough information.		1-n		
19.1.3.1	19.1.3.1	keyword	A textual description or terminology to describe the content of the registered resource.		1-n		
20	20	descriptions	Container element to provide language-dependent information, statements or passages that give additional details about someone or something.		0-1		
20.1	20.1	description	Container element for language-dependent descriptions.		1-n		
20.1.2	20.1.2	freetext	All additional information about the registered resource that does not fit in any of the other categories. May be used for technical information.		1	Description of this dataset	Describe your dataset as accurately as possible. You may address any matter that you consider important in order for others to understand your dataset. This may include matters concerning experimental procedure, variables of interest, structure of the data, econometric applications, etc.
20.1.3	20.1.3	descriptionType	Predefined terms to provide information about different types of descriptions used to describe the registered resource.	M if freetext is used.	1	See da|ra controlled list descriptionType appendix 4.1.4 for definitions[17]. Here only "5. Others".	
20.1	20.1	description	Container element for language-dependent descriptions.		1-n		
103.20.1.2	20.1.2	theoreticalFramework-Freetext	All additional information about the registered resource that does not fit in any of the other categories. May be used for technical information.		1	Theoretical framework Example: Research from previous literature used to derive and test the hypotheses in the experiment.	Describe the theoretical framework your experiment is based on (i.e., research from previous literature used to derive and test your hypotheses in the experiment). Please make reference to original sources as well as any relevant extensions/variations/applications found in the literature.
20.1.3	20.1.3	descriptionType	Predefined terms to provide information about different types of descriptions used to describe the registered resource.	M if freetext is used.	1	See da|ra controlled list descriptionType appendix 4.1.4 for definitions[18]. Here only "5. Others".	

[17] Koch, U., Akdeniz, E., Meichsner, J., Hausstein, B., & Harzenetter, K. (2017). GESIS Papers 2017|25, da|ra Meta-data Schema, Documentation for the Publication and Citation of Social and Economic Data, Version 4.0, https://doi.org/10.4232/10.mdsdoc.4.0

[18] Koch, U., Akdeniz, E., Meichsner, J., Hausstein, B., Harzenetter, K. (2017). GESIS Papers 2017|25, da|ra Meta-data Schema,

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
21	21	geographicCoverages	Container element to provide geographical information of the data collection including a controlled vocabulary and a free-text field.		0-1		
21.1	21.1	geographicCoverage	Container element to provide information about the geographic coverage of the registered resource.		1-n		
21.1.1	21.1.1	geographicCoverageControlled	Predefined terms to provide geographical information to differentiate between different locations the experiment was conducted.		0-1	Country Countries in format ISO 3166-2/3. Example: "DE" for Germany	State all countries where the experiment(s) was conducted by choosing them from the dropdown menu. Remove a selected item by clicking on it.
21.1	21.1	geographicCoverage	Container element to provide information about the geographic coverage of the registered resource.		1-n		
21.1.1	21.1.1	geographicCoverageControlled	Predefined terms to provide geographical information to differentiate between different locations the experiment was conducted.		0-1	Laboratory of experiment(s) See 2.3.8 Controlled list: Laboratory	State all experimental laboratories where the experiment was conducted. Note that this also applies to experimental studies conducted outside of a laboratory but which were organized, financed or were otherwise related to a given laboratory (or laboratories). You can either do separate entries or choose them from the list. Remove a selected item by clicking on it.
104.21.1.2.1.2	21.1.2.1.2	LaboratoryOfExperimentsFreetext	A free text field to describe the location of the laboratory in case it cannot be found in the controlled vocabulary list.			Further information on Laboratory of experiments that is not included in the controlled list.	
22	22	universes	Container element to provide language-dependent information about statistical entities about which inferences are to be drawn and to which analytic results refer.		0-1	For example, a population could consist of all the persons in the country, or those in a particular geographical location, or a special ethnic group, depending on the purpose and coverage of the study.	
22.1	22.1	universe	Container element for one specific description about the universe to which analytic results refer.		1-n		

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
22.1.2	22.1.2	sampled	Description of the statistical entities of the survey.		1	Participant pool Description of the population, from which the participants in the experiment were drawn. Example: All persons in the laboratory participant pool.	Describe the population, from which the participants in the experiment were drawn, as accurately as possible. Ask yourself: who is my population (e.g., all students of a certain lecture, all students who are registered in the database of the laboratory, all inhabitants of a certain region or country, etc.) and what are the relevant properties and characteristics of this population (e.g., all students were economics students or most of the inhabitants of the region do not have any access to flowing water etc.).
23	23	samplings	Container element to provide language-dependent information about the sample and sample design used to select the experiment participants to represent the population.		0-1		
23.1	23.1	sampling	Container element for one specific sampling method.		1-n		
23.1.2	23.1.2	method	The type of sample and sample design used to select the participants to represent the population.		1	Sampling method	Describe the requirements the participants of the participant pool had to fulfil to participate in the experiment. Such requirements can be a certain sex, age, education, annual income, etc.
24	24	temporalCoverages	Container element to provide information about the time frame of the data collection.		0-1		
24.1	24.1	temporalCoverage	Container element to provide structured or unstructured information about the time frame of the data collection.		1-n		
24.1.1	24.1.1	temporalCoverage-Formal	Container element to provide information about the structured temporal time frame of the data collection.		0-1		
105.1.24.1.1.1	24.1.1.1	startDate	Container element that provides information about the start date of the data collection.				
105.1.1.24.1.1.1.1	24.1.1.1.1	date	The date the experiments started.		1	Period of experiments from "From" as date: DD-MM-YYYY	
105.2.24.1.1.2	24.1.1.2	endDate	Container element that provides information about the end date of the experiments.		0-1		
105.2.1.24.1.1.2.1	24.1.1.2.1	date	The date the experiments ended.		1	Period of experiments to "To" as date: DD-MM-YYYY	

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
28	28	collectionModes	Container element to provide information about the mode of data collection used to collect information from a sample in an experiment.		0-1		
28.1	28.1	collectionMode	Container element to provide structured or unstructured information about the mode of data collection used to collect information from a sample in an experiment.		1-n		
28.1.1	28.1.1	collectionModeType	Predefined terms to provide information about different types of methods that are used to collect information from a sample in a survey.		1	See da|ra controlled list appendix 4.1.7 for definitions. Here only "22: Experiment"	
28.1.2	28.1.2	collectionModesFree	Container element to provide language-dependent information to classify or describe methods that are used to collect information in an experiment.		0-1		
106.28.1.2.1	28.1.2.1	collectionModeFree	Container element for descriptions about the mode of data collection.		1-n		
106.1.28.1.2.1.2	28.1.2.1.2	collectionMode-FreeExp	An additional field to describe the methods that are used to collect information in an experiment.		1-n	Data collection mode See 2.3.7 controlled list: Data collection mode	Specify the procedure(s) by which the data in the dataset was collected. You may pick one or more options from the dropdown menu as well as type in an option, should it not be on the list. Remove a selected item by clicking on it.
106.1.1.28.1.2.1.2		collectionMode-FreeExpOthers	Further data collection mode information that is not included in the controlled list.		1-n		
29	29	dataSets	Container element to provide information about the dataset, which is a collection of data, where every column of the statistical data matrix represents a particular variable, and each row corresponds to a given member of the dataset in question.		0-1		
29.1	29.1	dataSet	Container element to provide information about a specific data set.		1-n		
29.1.2	29.1.2	unitType	Describes the entity being analyzed or observed in the resource.		0-1	See da|ra controlled list appendix 4.1.8 for definitions. Here only „1: Individual "or „11: Group ". Use only together with numberUnits!	

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
29.1.3	29.1.3	numberUnits	The number of units being analyzed or observed in the resource.		0-1	Total number of independent observations unitType has a contextual relationship with numberUnits. When a unitType is being selected, it is mandatory to provide a number of units and vice versa. Finally, it means that both together are mandatory; otherwise, none of them should be used.	State the total number of statistical units analyzed in the dataset. Two observations are independent if the value of one observation does not affect the value of another observation. For instance: in the experiment are 20 participants and each of them plays with another participant a coordination game with (without) interaction. Consequently, the total number of independent observations in the experiment is 10 (20) since the outcome of each participant is (not) affected by the outcome of another participant.
107		totalNumberParticipants	The total number of participants being analyzed or observed in the resource.		0-1	Total number of participants	State the total number of participants in your experiment.
108		largestGroupSize	The largest group size of one relevant analyzed observation in resource.		0-1	Largest group size Example: A public goods experiment with a largest group size of 10 participants in one single observation => 10	State the number of participants in the largest statistical unit of the experiment. For example: you have 20 participants and each of them plays with another participant a coordination game. Hence, the largest group size is 2. In the event that all 20 participants play a public goods game together in one group, the largest group size is 20.
29.1.6	29.1.6	files	Container element to provide specific information of the data file.	M	0-1		
29.1.6.1	29.1.6.1	file	Container element to provide specific information of the data file such as name, format, size, and fingerprint of the file.		1-n		
29.1.6.1.1	29.1.6.1.1	name	The name of the data file.		0-1	Upload files	Upload the dataset, as well as further relevant files that complement your dataset (e.g., codebook (explanation of variables), instructions, program code, screenshots, characteristics of the participants, statistics, Do-files.). At least one file, whose type of data is a dataset, is required to continue.

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
109.1		fileType	The type of the data file.	M for Dataset	0-1	Type of data Example: Codebook, Dataset See 2.3.14 Controlled list: Type of Data	Type of data
109.1.1		fileTag	Tag to provide specific information of the data file.		0-n	Add tags Example: Treatment x, Instruction, STATA 10.0	Add tag(s) that best describe the content of the uploaded file
109.1.2		fileDescription	Description to provide specific information of the data file.		0-1	Description of this dataset	Add description that best describe the content of the uploaded file
29.1.6.1.2	29.1.6.1.2	format	A textual description of the technical format of the data file.		0-1	Use file extension or MIME type where possible. Examples: application/x-stata, application/pdf	
29.1.6.1.3	29.1.6.1.3	size	The size of a data file or resource.		0-1	Example: KB, MB	
29.1.6.1.4	29.1.6.1.4	fingerprint	Checksum which confirms the authenticity of the data or data file by assigning a hash value (digital fingerprint).		0-1		
29.1.6.1.5	29.1.6.1.5	fingerprint-Method	The technical procedure generating a data fingerprint.		0-1	Example: MD5, SHA1	
30	30	notes	Container element to provide language-dependent remarks or other information about the registered resource.		0-1		
110.30.1	30.1	note	Container element for one specific language dependent further remark about the registered resource.		1-n		
110.1.30.1.2	30.1.2	text Leading question and object of data collection	Textual description of the leading research question and the object of data collection		1	Leading question and object of data collection	State your main research question and the academic goal you pursue through the collection and analyses of this dataset.
32	32	publications	Container element to provide information about an article, a document, etc. that has been made available to the public.		0-1		
32.1	32.1	publication	Container element to provide information about a structured or/and unstructured information about a publication.		1-n		
32.1.1	32.1.1	structuredPublication	Container element to provide structured information about an article, a document or another resource that has been made available to the public.		1		
32.1.1.1	32.1.1.1	documentType	The type of publication that has been made available to the public to differentiate between document types.		0-1	Document type of publication See 2.3.15 Controlled list: Document Type	State the type of your published document by selecting an option from the dropdown menu.

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
32.1.1.2	32.1.1.2	authorsEditors	Container element to provide information about a person, who wrote and originated (author) and/or edited and modified (editor) the publication.		1		
32.1.1.2.1	32.1.1.2.1	authorEditor	Container element to provide information about an author and/or an editor of a publication.		1-n		
32.1.1.2.1.1	32.1.1.2.1.1	author	Container element to provide information about an author.		0-1		
32.1.1.2.1.1.3	32.1.1.2.1.1.1; 32.1.1.2.1.1.2; 32.1.1.2.1.1.3	name	The full name of the author.		1	Author Includes firstName, middleName and lastName.	State the complete name of the publication's author(s) using the following format: last name, first name and middle name. Separate authors using a semicolon (;).
32.1.1.3	32.1.1.3	title	The title or name of the publication.		1	Title of publication	Enter the title of the publication related to this dataset. If there are more than one publication related to this dataset, you may add more entry fields by clicking on the "Add Publication" button.
32.1.1.4	32.1.1.4	year	The year on which the publication has been or is planned to be published.		0-1	Year of publication	Enter the year of the document's publication.
32.1.1.14	32.1.1.14	PIDs	Container element to provide information about the Persistent Identifier (PID) that has been generated to uniquely and permanently identify the structured publication.		0-1	It is used to be able to reference and retrieve data permanently. PIDs link data with the data producer or with research objects based on them.	
32.1.1.14.1	32.1.1.14.1	PID	Container element for the value of a formally registered unique and persistent identifier of the structured information of publication.		1-n		
32.1.1.14.1.1	32.1.1.14.1.1	ID	The value of a formally registered unique and persistent identifier of the structured information of a publication.		1	Link (URL)	The recolver URL of the publication, e.g., DOI Please add the complete resolver URL incl. http or https, e.g., http://doi.org/10.2307/1914185
32.1.2	32.1.2	unstructuredPublication	Container element to provide unstructured information about an article, a document or another resource that has been made available to the public.		1		
32.1.2.1	32.1.2.1	freetext	Unstructured bibliographic information related to the publication.		1	Abstract	Enter the abstract of the publication.

x-econ sequence	da|ra sequence	Property	Definition	Function of element	Occ	Usage notes	Help text
111		Research group	Name of a research group providing the data.		0-1	Research group See 2.3.17 Controlled list: Research group	Enter the name of your research group if the data is related to other data from the same research group. In this way, all datasets of the same research group can be linked. You can either do a separate entry or choose one from the list.
30	30	notes	Container element to provide remarks or other information about the registered resource.		0-1		
30.1	30.1	note	Container element for further remarks about the registered resource.		1-n		
30.1.2	30.1.2	text	Textual description of the contents of the dataset.		1	Further relevant information on the dataset (e.g., steps to reproduce or more information about your lab and the process of data collection)	Enter any further information that you wish to make available concerning your dataset.

2.3 Appendix: controlled vocabulary in x-econ

Shown below are the controlled lists, which are used in x-econ. This includes the adopted lists from da|ra 4.0 and the newly developed controlled vocabulary lists for data of the experimental economic research.

In contrast to x-econ, previous vocabulary and taxonomy do not include the categories commonly used in experimental economic research.

2.3.1 Controlled list: Resource Type[19]

Identifier	Type (en)	Definition
2	Dataset	Data encoded in a defined structure.

2.3.2 Controlled list: License

Identifier	Type	Usage notes; Help text
1	Creative Commons Universal - CC0 - Public domain "no Copyright"	Corresponds to licenseType: 1 in da|ra 4.0; The content underlies no restrictions; the licensor (you) give permission to copy, modify and (re)distribute the data for any purpose, even for commercial purposes.

[19] Koch, U., Akdeniz, E., Meichsner, J., Hausstein, B., & Harzenetter, K. (2017). GESIS Papers 2017|25, da|ra Metadata Schema, Documentation for the Publication and Citation of Social and Economic Data, Version 4.0, https://doi.org/10.4232/10.mdsdoc.4.0

2	Creative Commons 4.0 International - by - Attribution	Corresponds to licenseType: 6 in da|ra 4.0; The licensor (you) give permission to copy, modify and (re)distribute the data for any purpose, even for commercial purposes. However, the user must give appropriate credit, provide a link to the license, and indicate if changes were made.
3	Creative Commons 4.0 International - by-sa - Attribution ShareAlike	Corresponds to licenseType: 7 in da|ra 4.0; The licensor (you) give permission to copy, modify and (re)distribute the data for any purpose, even for commercial purposes. However, the user must give appropriate credit, provide a link to the license, and indicate if changes were made. Furthermore, if you modify the material, you must distribute your contributions under the same license as the original.
4	Creative Commons 4.0 International - by-nd - Attribution NoDerivatives	Corresponds to licenseType: 5 in da|ra 4.0; The licensor (you) give permission to copy and (re)distribute the data for any purpose in its original form, even for commercial purposes. Distribution of modified material is thus prohibited. Furthermore, you must give appropriate credit, provide a link to the license, and indicate if changes were made.
5	Creative Commons 4.0 International - by-nc - Attribution NonCommercial	Corresponds to licenseType: 3 in da|ra 4.0; The licensor (you) give permission to copy, modify and (re)distribute the data only for non-commercial purposes. Furthermore, the user must give appropriate credit, provide a link to the license, and indicate if changes were made.
6	Creative Commons 4.0 International - by-nc-sa -Attribution NonCommercial ShareAlike	Corresponds to licenseType: 4 in da|ra 4.0; The licensor (you) give permission to copy, modify and (re)distribute the data only for non-commercial purposes. However, the user must give appropriate credit, provide a link to the license, and indicate if changes were made. Furthermore, if you modify the material, you must distribute your contributions under the same license as the original.
7	Creative Commons 4.0 International - by-nc-nd - Attribution NonCommercial-NoDerivatives	Corresponds to licenseType: 2 in da|ra 4.0; The licensor (you) give permission to copy and (re)distribute the data only for non-commercial purposes and only in its original form. However, the user must give appropriate credit, provide a link to the license, and indicate if changes were made.
8	MIT License	Corresponds to licenseType: 8 in da|ra 4.0; The licensor (you) give permission to copy, modify and (re) distribute the data, even for commercial purposes. However attribution must be made to copyright holders and a legal disclaimer must be included in all copies.

9	Apache License 2.0	Corresponds to licenseType: 8 in da|ra 4.0; The licensor (you) give permission to copy, modify and (re)distribute the data, even for commercial purposes. If someone redistributes the data, (s)he must clearly indicate, which part is used under the Apache License 2.0. Furthermore, attribution must be made to copyright holders, modifications must be clearly marked as such and a legal disclaimer must be included in all copies.
10	BSD License 3-clause	Corresponds to licenseType: 8 in da|ra 4.0; The licensor (you) give permission to copy, modify and (re)distribute the data, even for commercial purposes. However, attribution must be made to copyright holders, a legal disclaimer must be included in all copies and a usage of the authors' names for endorsement of derivative works is not permitted.
11	BSD License 2-clause	Corresponds to licenseType: 8 in da|ra 4.0; The licensor (you) give permission to copy, modify and (re)distribute the data, even for commercial purposes. However, attribution must be made to copyright holders and a legal disclaimer must be included in all copies.
12	General Public License GNU GPL Version 3	Corresponds to licenseType: 8 in da|ra 4.0; The licensor (you) give permission to copy, modify and (re)distribute the data, even for commercial purposes. However, if you modify the material, you must distribute your contributions under the same license as the original.
13	CERN Open Hardware Licence (OHL)	Corresponds to licenseType: 8 in da|ra 4.0; The licensor (you) give permission to copy, modify and (re)distribute hardware design documentation. However, if you modify the material, you must distribute your contributions under the same license as the original.
14	TAPR Open Hardware License (OHL)	Corresponds to licenseType: 8 in da|ra 4.0; The licensor (you) give permission to copy, modify and (re)distribute hardware design documentation. However, if you modify the material, you must distribute your contributions under the same license as the original and modifications must be clearly marked as such.

2.3.3 Controlled list: Scientific Discipline

Identifier	**Type**
1	Experimental economics
2	Experimental finance
3	Experimental public finance
4	Experimental macro economics
5	Experimental political science
6	Experimental sociology

7	Behavioral economics
8	Behavioral finance
9	Behavioral public finance

2.3.4 Controlled list: Game classification

The starting point for the controlled term list for the field of *game classification* was the controlled vocabulary of the Xresearch repository, which is based on the classification of the Economic Science Association (ESA)[20]. The existing controlled lists (classifications of ESA, Xresearch, Thesaurus Wirtschaft etc.) proved to be too unstructured for the field of *game classification* for the subsequent use of economic experiments in other contexts. An alternative option was to waive a controlled list for the *game classification* field or allowing a free input. However, this seemed too confusing for a (interdisciplinary) re-use and would have unnecessarily complicated a systemic data search. Therefore, a new controlled list of Game classification has been developed, which converts the existing categorizations (ESA, Thesaurus Wirtschaft, ISPS Yale[21] etc.) with the help of courses, current publications and conference programme in a consistent order. The list was then presented to researchers in experimental economic research and adapted on the basis of their comments and corrections.

Identifier	**Descriptor**
1	Auctions
2	Bargaining game
3	Battle of the sexes
4	Beauty contest
5	Centipede game
6	Chicken game
7	Combinatorial auction
8	Common-pool resource game
9	Coordination game
10	Dictator game
11	Dilemma game
12	Dollar auction dilemma
13	Double auction
14	Dutch auction
15	English auction
16	First-price auction
17	Güth-van Damme game
18	Markets

[20] https://www.economicscience.org

[21] http://isps.yale.edu/research/data#.VYhfgWM08ik

19	Minimum effort game
20	Multi-unit auction
21	Posted offer markets
22	Prisoners' dilemma
23	Private-value auction
24	Public goods game
25	Second-price auction
26	Stag hunt
27	Trust game
28	Ultimatum game
29	Other

2.3.5 Controlled list: Topic specification

As illustrated above in 2.3.4Controlled vocabulary: *Game classification* the controlled lists of content and scope was also compiled on the basis of existing categorization (ESA, Thesaurus Wirtschaft, ISPS Yale etc.). The list was then presented to researchers and adapted based on their recommendations.

Identifier	**Descriptor**
1	Altruism
2	Ambiguity
3	Animals
4	Backwards induction / Level k reasoning
5	Beliefs
6	Biology
7	Bounded rationality
8	Charitable giving
9	Communication
10	Competition
11	Cooperation
12	Efficiency
13	Emotions
14	Fairness
15	Finance
16	Framing
17	Gender
18	Group behavior
19	Industrial organization

20	Inequity aversion
21	Institutional design
22	Labor economics / Labor market
23	Learning
24	Macroeconomics
25	Market design
26	Morals
27	Nastyness
28	Neuroeconomics
29	Norms
30	Psychology
31	Public Choice
32	Risk
33	Social preferences
34	Other

2.3.6 Controlled list: Keywords

The controlled list of keywords was compiled on the basis of existing current international publications in the field of experimental economic research. The list consists of the published keywords of the following journals:

1. Experimental Economics Vol. 17-19 (2014-2016)
2. Games and Economic Behavior Vol. 91-100 (2015-2016)
3. Game Theory Vol. 44-45 (2014-2016)

The use of keywords supports the data provider by finding words for his individual keywords on the one hand and prevents incorrect spelling on the other hand.

Id.	Descriptor
1	Abilities
2	Adjacent strategy-proofness
3	Adverse selection
4	Advocacy
5	Affirmative action
6	Agenda manipulation
7	Aggregation rule
8	All-pay auction
9	Altruism
10	Ambiguity aversion
11	Anonymous random matching
12	Assortativity
13	Asymmetric information
14	Auctions

Id.	**Descriptor**
105	First-order assessment
106	Formal bargaining
107	Free riding
108	Fundraising
109	Gambling
110	Generalized cognitive hierarchy
111	Generosity
112	Gift-responsiveness
113	Global games
114	Group contest
115	Guilt aversion
116	Hard leverage
117	Hierarchy
118	Homo moralis

Id.	**Descriptor**
209	Performance feedback
210	Persuasion
211	Pigou–Dalton transfers
212	Plurality correspondence
213	Polarization
214	Political representation
215	Polynomials in Bernstein form
216	Population monotonicity
217	Preference aggregation
218	Preference evolution
219	Price controls
220	Price of anarchy
221	Principal agent
222	Principal-agent

Id.	Descriptor
15	Award rules
16	Awareness
17	Bandit problem
18	Bargaining
19	Bargaining theory
20	Bayesian game with infinite type spaces
21	Behavior strategy
22	Behavioral game theory
23	Behavioral mechanism design
24	Behavioral models
25	Best shot
26	Best-response equivalence
27	Blackwell's theorem
28	Bounded perception
29	Bounded rationality
30	Budget balance
31	Centipede games
32	Characterization theorems
33	Charitable giving
34	Cheap talk
35	Choice-based welfare analysis
36	Closed-graph property
37	Cognitive hierarchy
38	Cognitive hierarchy models
39	Collective action
40	Collusion
41	Commitment
42	Common value
43	Common pool resource
44	Common-value
45	Competence
46	Competition
47	Competitive equilibrium
48	Conditional cooperation
49	Condorcet Jury model
50	Conflict
51	Conflict of interest
52	Contests
53	Continuous strategy space
54	Contract

Id.	**Descriptor**
119	Image scoring
120	Imitative dynamics
121	Impartiality
122	Impossibility theorems
123	Incentive compatibility
124	Indirect reciprocity
125	Indivisible objects allocation
126	Inefficiency of equilibria
127	Influence
128	Informal bargaining
129	Information acquisition
130	Information revelation
131	Information search and aggregation
132	Institutions
133	Institutional design
134	Interdependent values
135	Investment game
136	Judgment aggregation
137	Kalai–Smorodinsky
138	Kemeny distance
139	Kemeny sets
140	Knowledge
141	Lab experiments
142	Laboratory experiment
143	Laboratory experiments
144	Large game with traits (LGT)
145	Lead by example
146	Leadership
147	Lebesgue unit interval
148	Legislative bargaining
149	Level-k
150	Level-k model
151	Level-k models
152	Level-m model
153	Limited liability
154	Linear values
155	Logarithmic game
156	Logit equilibrium
157	Long-term advisory relationship
158	Lorenz dominance

Id.	**Descriptor**
223	Principal–agent problem
224	Prisoners' dilemma
225	Private information
226	Probabilistic assignment
227	Procrastination
228	Project selection
229	Prospect theory
230	Psychological games
231	Punishment
232	QRE
233	Quantal response equilibrium
234	R&D
235	Random assignment
236	Random serial dictatorship
237	Reciprocity
238	Reduced-form implementation
239	Rent seeking
240	Repeated games
241	Replicator dynamic
242	Resale
243	Resource dilemma
244	Resource-monotonicity
245	Return policies
246	Risk aversion
247	Risk heterogeneity
248	Risk-sharing
249	Robust mechanism design
250	Saddles
251	Saturated probability space
252	School choice
253	Search
254	Second-order beliefs
255	Second-price auction with incomplete information
256	Self-serving biases
257	Sender
258	Sender–receiver games
259	Sequential screening
260	Shapley
261	Social choice
262	Social preferences

Id.	Descriptor
55	Contract design
56	Convex analysis
57	Convex set
58	Cooperation
59	Cooperative games
60	Coordination
61	Coordination games
62	Core
63	Costly voting
64	Credibility
65	Cutsets
66	Cyclic partition
67	Deadlines
68	Deal-responsiveness
69	Decentralized matching
70	Decision theory
71	Deferred acceptance
72	Deferred-acceptance-algorithm
73	Description-sensitivity
74	Desirability relation
75	Dictator game
76	Disclosure
77	Discrete cheap talk
78	Discrimination
79	Diversity
80	Divide-and-choose
81	Divide-and-Transpose
82	Dominant strategy
83	Donation game
84	Duplication
85	Dynamic decision-making
86	Dynamic games
87	Dynamic mechanism design
88	Dynamic signaling
89	Economic development
90	Efficiency
91	Electoral control
92	Endogenous evaluations
93	Endogenous status-quo
94	Entrepreneurship

Id.	**Descriptor**
159	Loss aversion
160	Lying
161	Many-to-many matching
162	Many-to-one matching with wages
163	Market
164	Markov perfect equilibrium
165	Marriage problems
166	Matching
167	Matching with contracts
168	Mechanism design
169	Median stable matchings
170	Median voter
171	Menu choice
172	Minimax theorem
173	Misrepresentations
174	Mistake monotonicity
175	Mixed strategy equilibrium
176	Morality
177	Multi-dimensional screening
178	Multidistrict elections
179	Multilateral sanctions
180	Multi-period delegation
181	Multiple audiences
182	Multiple equilibria
183	Multiple issues
184	Multiple senders
185	Multitasking
186	Multi-unit auction
187	Naive players
188	Nash equilibrium
189	Nash equilibrium distribution
190	Nash implementation
191	Networks
192	No-envy
193	Noisy reputation
194	Non-equilibrium structural models
195	Non-segregation
196	Non-wastefulness
197	Norm compliance
198	Observable payoff

Id.	**Descriptor**
263	Social pressure
264	Soft leverage
265	Sophisticated players
266	Spanning trees
267	Spatial bargaining
268	Specialization
269	Spiteful preferences
270	Stability
271	Stable systems
272	Status quo rules
273	Strategic communication
274	Strategic information transmission
275	Strategic learning
276	Strategyproofness
277	Strategy-proofness
278	Strong substitutability
279	Subgame perfect ϵ-equilibria
280	Subjective states
281	Submodularity
282	Supermodularity
283	Support function
284	Target
285	Team production
286	The law of aggregate demand
287	Time-inconsistent preferences
288	Tragedy of the commons
289	Trembling hand perfect equilibrium
290	Truncation strategies
291	Trust
292	Trust game
293	Trustworthiness
294	Two-dimensional values
295	Two-sided matching
296	Unawareness
297	Uncertainty
298	Uncovered set
299	Uniform equilibria
300	Uniform-price auctions
301	Upper semi-continuous functions
302	Value of information

Id.	Descriptor
95	Equilibrium selection
96	Estimation
97	Evolutionary stability
98	Experiment
99	Experimental auctions
100	Experimental economics
101	Experimentation
102	Experiments
103	Externalities
104	Fairness

Id.	**Descriptor**
199	Ordinal efficiency
200	Ordinal mechanism
201	Organization design
202	Other-regarding preferences
203	Participation constraint
204	Participation games
205	Partitional equilibria
206	Partnerships
207	Payoff identification
208	Payoff monotonicity

Id.	**Descriptor**
303	Vickrey auctions
304	Voluntary and compulsory voting
305	Voting behavior
306	Vulnerability-responsiveness
307	Weakly linear games
308	Wealth effects
309	Welfare dominance under preference replacement
310	Welfare loss
311	Winner's-bid auction
312	Zero-sum games

2.3.7 Controlled list: Data collection mode

Identifier	**Descriptor**
1	Artefactual Field Experiment
2	Classroom experiment
3	Computer Assisted
4	eEg (Electroencephalogram)
5	Electrocardiography (ECG)
6	Electrodermal Activity
7	Electromyography (EMG)
8	Eye Tracking
9	Factorial Survey
10	Field Experiments
11	fMRI
12	Framed Field Experiment
13	Internet
14	Interview, qualitative
15	Interview, quantitative
16	Laboratory Experiment
17	Mechanical Turk by Amazon
18	Mechanical Turk by ClickWorker
19	Mechanical Turk by MicroWorkers
20	Mechanical Turk, Other
21	Mechanical Turk by RapidWorkers
22	Mechanical Turk by Samasource
23	Mechanical Turk by ShortTask
24	Meta study

25	Natural Field Experiment
26	Pen and Paper
27	Photoplethysmography (PPG)
28	Randomized-Response Technique
29	Split Ballot
30	Other

2.3.8 Controlled list: Laboratory

No.	Name	Institution	Acronym	Country
1	Adelaide Laboratory for Experimental Economics	University of Adelaide	ADLab	Australia
2	Aton Experimental Economics Laboratory		AEELab	Australia
3	Behavioural Business Lab	RMIT University		Australia
4	Behavioural Research Laboratory	University of Sydney		Australia
5	Experimental Economics Laboratory	University of Melbourne	E²MU Lab	Australia
6	Innsbruck EconLab	University of Innsbruck		Austria
7	Max Jung Lab for Experimental Economics	University of Graz		Austria
8	MGSM Vernon L. Smith Experimental Eonomics Laboratory	Macquarie University Graduate School of Management		Australia
9	Monash Laboratory for Experimental Economics	Monash University/Monash Business School	MonLEE	Australia
10	Queensland Behavioural Economics lab	Queensland University of Technology	QuBE Lab	Australia
11	UNSW Business School Experimental Research Laboratory	University of New South Wales	BIZLab	Australia
12	UTS Behavioural Laboratory	University of Technology Sydney		Australia
13	Vienna Center for Experimental Economics	University of Vienna	VCEE	Austria
14	Behavioral Research Lab of the Department of Marketing, Business Economics and Law	University of Alberta		Canada
15	Calgary Behavioural & Experimental Economics Lab	University of Calgary	CBEEL	Canada
16	Experimental Lab at the Vancouver School of Economics	University of British Columbia	ELVSE	Canada
17	Experimental Lab of the Centre for Research in Adaptive Behaviour in Economics	Simon Fraser University/Centre for Research in Adaptive Behaviour in Economics	CRABE Lab	Canada
18	Experimental Lab of the Center for Interuniversity Research and Analysis of Organizations	Center for Interuniversity Research and Analysis of Organizations	CIRANO Lab	Canada
19	Laval Experimental Economics Laboratory	Laval University	LEEL	Canada
20	McMaster Experimental Economics Laboratory	McMaster University	McEEL	Canada
21	Experimental Social Science Laboratory	Zhejiang University		China
22	Finance and Economics Experimental Laboratory	Xiamen University	FEEL	China
23	Smith Experimental Economics Research Center	Shanghai Jiaotong University		China
24	Centre for Experimental Economics	University of Copenhagen	CEE	Denmark
25	Cognition and Behavior Lab	Aarhus University	COBELab	Denmark
24	Laboratory for Experimental Economics	University of Economics in Prague	LEE	Czech Republic
26	PCRC Decision Making Laboratory	University of Turku		Finland
28	Alfred-Weber-Institute Experimental Laboratory	University of Heidelberg	AWI-Lab	Germany
29	Bonn Laboratory for Experimental Economics	University of Bonn	BonnEconLab	Germany
30	Business and Economic Research Laboratory	University of Paderborn	BaER-Lab	Germany

No.	Name	Institution	Acronym	Country
31	Cologne Laboratory of Economic Research	University of Cologne	CLER	Germany
32	Düsseldorf Institute for Competition Economics Lab for Experimental Economics	University of Düsseldorf/Düsseldorf Institute for Competition Economics	DICELab	Germany
33	Essen Laboratory for Experimental Economics	University of Duisburg-Essen	ELFE	Germany
34	EXperimental Economics at Clausthal University of Technology	Clausthal University of Technology	ExECUTe	Germany
35	Experimental Lab of the Center for Social Sciences Research Methods	University of Oldenburg	MSW-Lab	Germany
36	Experimental Lab of the Chair for Empirical and Experimental Economics	University of Jena		Germany
37	Experimental Lab of the Chair of Innovation, Competition Policy and New Institutional Economics	University of Kiel		Germany
38	Experimental Lab of the Institute of Entrepreneurial and Behavioral Decision Making	Humboldt University Berlin		Germany
39	Karlsruhe Decision & Design Lab	Karlsruhe Institute of Technology	KD2-Lab	Germany
40	Lab for Economic Experiments	Technical University Berlin		Germany
41	Lab for Experimental Economics	Ruhr University Bochum	RUBex	Germany
42	Laboratory for Economic Research	University of Osnabrück	LaER	Germany
43	Laboratory for Experimental Economics	University of Erfurt	eLab	Germany
44	Lakelab (*des Thurgauer Wirtschaftsinstituts an der Universität Konstanz*)	University of Konstanz/Thurgau Institute of Economics		Germany
45	Magdeburg Experimental Laboratory of Economic Research	University of Magdeburg	MaXLab	Germany
46	Mannheim Laboratory for Experimental Economics	University of Mannheim	mLab	Germany
47	Munich Experimental Laboratory for Economic and Social Sciences	University of Munich	MELESSA	Germany
48	PAULA Experimental Laboratory	University of Passau	PAULA	Germany
49	Potsdam Laboratory for Economic Experiments	University of Potsdam	PLEx	Germany
50	WISO-Research Lab	University of Hamburg		Germany
51	Experimental Economics Laboratory	City University of Hong Kong		Hong Kong
52	Behavioural and Experimental Economics Lab	University of Florence	BEELab	Italy
53	Behavioral and Experimental Economics Research Group	University of Milano Bicocca		Italy
54	Bocconi Experimental Laboratory for the Social Sciences	Bocconi University	BELSS	Italy
55	Bologna Laboratory for Experiments in Social Science	University of Bologna	BLESS	Italy
56	Center for Experimental Research in Management and Economics	Ca' Foscari University of Venice	CERME	Italy
57	Centro di Economia Sperimentale a Roma Est	LUISS Guido Carli	CESARE	Italy
58	Cognitive and Experimental Economics Laboratory	University of Trento	CEEL	Italy
59	Experimental and Simulative Economics Laboratory	University of Eastern Piedmont	AL.EX	Italy
60	Laboratorio di Ricerca in Economia Sperimentale di Salerno	University of Salerno	LabESS	Italy
61	Laboratory of Experimental Economics	University of Siena / Interuniversity Center for Experimental Economics	LabSi	Italy
62	Leipziger Experimentallabors für Sozialwissenschaften	University of Leipzig	LEx	Germany
63	Research Unit in Behavioural Economics and Neuroeconomics	University of Cape Town	RUBEN	South Africa
64	Sogang Experimental Economics Laboratory	Sogang University	SEE Lab	South Korea
65	Behavioral Sciences Laboratory	Pompeu Fabra University Barcelona	BESLab/LEEX	Spain
66	Bilbao Laboratory of Experimental Analysis	University of the Basque Country	Bilbao LABEAN	Spain
67	Experimental Economics Laboratory	Autonomous University of Barcelona/Institute of Economic Analysis		Spain

No.	Name	Institution	Acronym	Country
68	Granada Lab of Behavioral Economics	University of Granada	GLOBE	Spain
69	Laboratory of Experimental Economics	Jaume I University	LEE	Spain
70	Laboratory for Experimental Business and Economics	Pablo Olavide University of Seville	LEXBE	Spain
71	Laboratory for Rearch in Experimental and Behavioural Economics	University of Valencia	LINEEX	Spain
72	Laboratory for Theoretical and Experimental Economics	University of Alicante	LaTEx	Spain
73	Madrid Laboratory of Experimental Economics	Autonomous University of Madrid	MADLEE	Spain
74	Laboratory for Experimental and Behavioral Economics	University of Zurich		Switzerland
75	Behavioral ResearchLab	London School of Economics and Political Science		UK
76	Centre for Behavioural and Experimental Social Science	University of East Anglia	CBESS	UK
77	Centre for Decision Research and Experimental Economics	University of Nottingham	CeDEx	UK
78	Centre for Economic Learning and Social Evolution	University College London / Economic and Social Research Council	ELSE	UK
79	Centre for Experimental Economics	University of York	EXEC Lab	UK
80	Decision Research at Warwick	University of Warwick	DR@W	UK
81	ExpPreSS Laboratory of Experimental Research in Social Sciences	Royal Holloway University of London		UK
82	Finance and Economics Experimental Laboratory at Exeter	University of Exeter	FEELE	UK
83	Lancaster Experimental Economics Laboratory	Lancaster University	LExEL	UK
84	Nuttfield Centre for Experimental Social Science	University of Oxford / Nuttfield College	CESS	UK
85	Oxford Experimental Lab	University of Oxford / Saïd Business School	OXlab	UK
86	Scottish Experimental Economics Laboratory	University of Aberdeen	SEEL	UK
87	Social Sciences Experimental Laboratory	University of Southampton		UK
88	Social Science Experimental Laboratory	New York University of Abu Dhabi	SSEL	United Arab Emirates
89	Appalachian Experimental Economics Laboratory	Appalachian State University	AppEEL	USA
90	Behavioral Business Research Lab	University of Arkansas	BBRL	USA
91	Behavioral Research Lab	University of California Riverside	AGSM Lab	USA
92	Behavioral Research Lab	University of Central Florida		USA
93	Behavioral Research Lab	University of Kentucky / Gaton College of Business and Economics		USA
94	Behavioral Research Laboratory	Rice University		USA
95	Brown University Social Science Experimental Laboratory	Brown University	BUSSEL	USA
96	California Social Science Experimental Laboratory	University of California Los Angeles	CASSEL	USA
97	Center For Behavioral And Experimental Economic Science	University of Texas at Dallas	CBEES	USA
98	Center for Behavioral Political Economy's Decision Experiment Lab	Stony Brook University		USA
99	Center for Experimental and Applied Economics	University of Delaware		USA
100	Center for Experimental Social Science	New York University	CESS	USA
101	Center for Neuroeconomic Studies	Claremont Graduate University	CNS	USA
102	Cleve E. Willis Experimental Economics Laboratory and Endowment	University of Massachusetts Amherst		USA
103	Columbia Experimental Laboratory in the Social Sciences	Columbia University	CELSS	USA
104	Computer Lab for Experimental Research	Harvard University/Harvard Business School	CLER	USA

No.	Name	Institution	Acronym	Country
105	Consumer Decision Making Lab	Yale School of Management	SOM Lab	USA
106	Dean's Behavioral Economics Laboratory	Georgia State University	DBEL	USA
107	Debra Paget and Jeffrey Berg Business Simulation Lab	Cornell University		USA
108	Decision Behavior Laboratory / Economic Science Lab	University of Arizona	DBL / ESL	USA
109	Dynamic Decision Making Laboratory	Carnegie Mellon University	DDMLab	USA
110	Economic Research Lab	Texas A&M University	ERL	USA
111	Economic Science Institute's Laboratory for Experimental Economics	Chapman University		USA
112	Economics Lab	Williams College		USA
113	Economics Laboratory	University of California San Diego		USA
114	Experimental and Behavioral Economics Laboratory	University of California Santa Barbara	EBEL	USA
115	Experimental Economics Center	Georgia State University	ExCEN	USA
116	Experimental Economics Lab	University of Alaska Anchorage		USA
117	Experimental Economics Laboratory	Loyola Marymount University	EconLab	USA
118	Experimental Economics Laboratory	University of Maryland	EEL-UMD	USA
119	Experimental Economics Laboratory	Ohio State University		USA
120	Experimental Laboratory for Economics and Business Research	Virginia Commonwealth University		USA
121	Experimental Social Science Laboratory	University of California Irvine	ESSL	USA
122	Experimental Social Science Laboratory	University of California Berkley	XLab	USA
123	Gregory Wachtler Experimental Economics Laboratory of the Center for Economic Behavior, Institutions and Design	Rutgers University		USA
124	Harvard Decision Science Laboratory	Harvard University		USA
125	Interdisciplinary Experimental Laboratory	Indiana University Bloomington	IELab	USA
126	Judith A. and Robert E. Griffin Experimental Economics Laboratory	University of Southern Indiana		USA
127	Lab for Experimental Economics and Decision Research	Cornell University	LEEDR	USA
128	Laboratory for Computer-Mediated Experiments and the Study of Culture	University of Hawaii		USA
129	Laboratory for Economics, Management and Auctions	Pennsylvania State Universtiy		USA
130	Laboratory for Experimental Economics	St. Lawrence University		USA
131	Laboratory for Research in Experimental Economics	Southern Methodist University	LREE	USA
132	Learning and Experimental Economics Projects	University of California Santa Cruz	LEEPS	USA
133	Mississippi Experimental Research Laboratory	University of Mississippi	MERL	USA
134	Missouri Social Science Experimental Lab	University of Washington in St. Louis	MISSEL	USA
135	Pittsburgh Experimental Economics Lab	University of Pittsburgh	PEEL	USA
136	Policy Simulation Lab	University of Rhode Island		USA
137	Princeton Laboratory for Experimental Social Science	Princeton University	PLESS	USA
138	Social and Behavioral Sciences Laboratory	University of Minnesota		USA
139	Social Science Experimental Laboratory / Laboratory for Experimental Economics and Political Science	California Institute of Technology	SSEL / EEPS (Plott Lab)	USA
140	The Interdisciplinary Center for Economic Science	George Mason University	ICES	USA
141	Vernon Smith Experimental Economics Laboratory	Purdue University	VSEEL	USA
143	Wharton Behavioral Lab	University of Pennsylvania		USA
144	XS/FS Lab	Florida State University		USA

2.3.9 Controlled list: Design decisions

Id.	Descriptor
1	Matching Method: Partners design
2	Matching Method: Strangers design
3	Matching Method: Perfect strangers design
4	Anonymity: No anonymity
5	Anonymity: Single-blind
6	Anonymity: Double-blind
7	Anonymity: Triple-blind
8	Deception
9	One shot game / single play
10	Repeated game / repeat play
11	Stage game
12	Restart
13	Finitely long games / fixed end round
14	Infinitely long games
15	Simultaneous
16	Sequential
17	Single stage game
18	Multi-stage game
19	Perfect information
20	Imperfect information
21	Feedback
22	No-feedback
23	Direct response method / straight mode
24	Strategy method / level playing field mode
25	Between subjects
26	Within subjects
27	Other

2.3.10 Controlled list: Incentives

Identifier	Descriptor
1	Nothing
2	Cash payment immediately after experiment
3	Payment with delay

4	Course credit
5	Others

2.3.11 Controlled list: Interaction

Identifier	Descriptor
1	Human - Human
2	Human - Computer
3	Animal - Human
4	Others

2.3.12 Controlled list: Professional status of participants

Identifier	Descriptor
1	Artificial intelligence (*AI*)
2	Animal subjects
3	Children: Kindergarten age
4	Employees
5	Managers / Employees in managerial position
6	Pensioners
7	School children
8	Self-employed
9	Students
10	Students: Economics
11	Students: Humanities
12	Students: Law
13	Students: Psychology
14	Students: Social Sciences
15	Students: STEM / MINT
16	Unemployed
17	Others

2.3.13 Controlled list: Experimental Software

Identifier	Type
1	classEx
2	LIONESS Lab
3	oTree

4	Qualtrics
5	Veconlab
6	z-Tree

2.3.14 Controlled list: Type of Data

Identifier	Type
1	Characteristics of the participants
2	Codebook
3	Dataset*
4	Instructions
5	Program code (and export of the experiment)
6	Screenshots
7	Statistics
8	Other

2.3.15 Controlled list: Document Type[22]

Identifier	Type	Definition
1	Working Paper	A preliminary scientific or technical paper released for input and critique (most often grey literature).
2	Article	A nonfictional literary composition that forms an independent part of a publication e. g. in a journal or magazine.
3	Report	A written account of something that one has observed, heard, done, or investigated and that is prepared on ad hoc, periodic, recurring, regular, or as required basis.
4	Book / Monograph	A set of written, printed, illustrated or blank sheets that conjoin into one literary work. A monograph is a non-serial publication on a single subject or an aspect of a subject, usually by a single author.
5	Manuscript	A book, document, or other composition written by hand as well as text submitted to the publisher or printer in preparation for publication, regardless of the format.
6	Reference Book	A book, such as a dictionary or encyclopedia, to which one can refer for authoritative information and intended primarily for consultation rather than for consecutive reading.
7	Review	An evaluation of e. g. a publication, theory or synthesis of research on a topic at that moment in time.
8	Series	A (regularly) sequence of publications like books or journal articles that have (roughly) the same subject.
9	Journal	Newspaper or magazine that deals with a particular subject or professional activity and that is issued in a regular cycle.
10	Newspaper	A printed publication (usually issued daily or weekly) consisting of folded unstapled sheets and containing news, articles, advertisements and correspondence.

[22] Koch, U., Akdeniz, E., Meichsner, J., Hausstein, B., & Harzenetter, K. (2017). GESIS Papers 2017|25, da|ra Metadata Schema, Documentation for the Publication and Citation of Social and Economic Data, Version 4.0, https://doi.org/10.4232/10.mdsdoc.4.0, Appendix 4.1.13

2.3.16 Controlled list: Currency

Identifier	Type	Definition
1	Euro	Euro (€)
2	US Dollar	US Dollar ($)

2.3.17 Controlled list: Research group

Identifier	Type
1	FOR2104
2	FOR2104 „Bedarfsgerechtigkeit“

2.4 Additional controlled vocabularies to be included in the next x-econ release

2.4.1 Controlled list: Keywords[23]

Id.	Descriptor
1	A stochastic variation of Ramsey's Theorem
2	Absence-proofness
3	Absentmindedness
4	Acquiring a company problem
5	Action commitment game
6	Acyclicity
7	Adaptive play
8	Addition invariance
9	Adolescents
10	Afriat
11	Agenda setting
12	Agent types
13	Aggregate payoff shocks
14	Aggregative game
15	Agreeing to disagree
16	Agreement theorem
17	Algorithmic mechanism design

Id.	Descriptor
265	Flows over time
266	Focal point
267	Folk solution
268	Folk theorem
269	Forgiveness
270	Forward induction
271	Framing effects
272	Fully revealing equilibrium
273	Fundamental value
274	Game with precedence constraints
275	Games with incomplete information
276	Games with strategic complementarities
277	Garbling
278	Gender differences
279	Gender gap
280	General solution
281	Generalized aggregative games

Id.	Descriptor
529	Prior
530	Prior-independence
531	Privacy
532	Private monitoring
533	Private uncertain values
534	Private values
535	Privatization
536	Probabilistic beliefs
537	Probabilistic serial
538	Problem separability
539	Procurement
540	Product complexity
541	Productivity
542	Promises
543	Proper Shapley value
544	Proportional and deterministic prizes
545	Proportional representation

[23] The following keywords were removed from the list: No. 75 Bargaining set; No. 245 Derandomization.

Id.	Descriptor
18	Algorithmic randomness
19	Algorithms
20	Allocation by force
21	Allocative efficiency
22	All-small
23	Ambiguity
24	An approximate subgame perfect equilibrium
25	Analytic sets
26	Announcement proofness
27	Anonymity
28	Anticore
29	Appointment problem
30	Approximate equilibrium
31	Approximate mechanisms without money
32	Approximation
33	Approximation algorithms
34	Aspiration core
35	Asset market
36	Assignment
37	Assignment game
38	Association
39	Assortative mating
40	Asymmetric auctions
41	Asymptotic budget balance
42	Asymptotic nucleolus
43	Asymptotic Shapley value
44	Asymptotic value
45	Asynchronous repeated game
46	Atomless probability space
47	Auction fever
48	Automata
49	Automaton
50	Average reward
51	Axiomatization
52	Backward induction
53	Balanced collections
54	Balancedness
55	Banzhaf index
56	Banzhaf value
57	Basins of attraction

Id.	Descriptor
282	Generalized median voter scheme
283	Generalized prisoners' dilemma
284	Geometric median
285	Gift-exchange game
286	Giving
287	Gradualism
288	Gratitude
289	Group affiliation
290	Group composition
291	Group formation
292	Group identity
293	Group interaction
294	Group size
295	Group strategy-proofness
296	Groups
297	Guilt
298	Hackenbush
299	Hamilton–Jacobi
300	Hannan set
301	Harsanyi dividends
302	Harsanyi set
303	Hedonic games
304	Heterogeneity
305	Heterogeneous preferences
306	Heterogeneous productivity
307	Hex
308	Hidden information
309	Hierarchical game
310	Hierarchies of beliefs
311	House-money effect
312	Housing prices
313	Identity
314	Identity change
315	Imitation
316	Immobile hider
317	Impartial games
318	Imperfect monitoring
319	Imperfect recall
320	Implementation
321	Implementation of Walrasian

Id.	Descriptor
546	Proportionality
547	Proposer power
548	Prosocial motivation
549	Proxy
550	Pseudo-endowment effect
551	Pseudo-randomness
552	Public good
553	Public goods experiment
554	Public information
555	Punishment spillovers
556	Pure-strategy Nash equilibrium
557	Purification
558	Quarrel
559	Quasiconcave game
560	Quasi-perfect equilibrium
561	Random graphs
562	Random matching
563	Random priority
564	Random proposer
565	Randomness
566	Ranking
567	Ranking auctions
568	Rationality
569	Rationalizability
570	Real effort
571	Recruitment
572	Recursive game
573	Redistribution mechanisms
574	Refinement
575	Regret-matching
576	Reinforcement learning
577	Relational incentive contracts
578	Relative payoff
579	Relative wages
580	Repeated games with incomplete information
581	Repeated Prisoner's Dilemma
582	Repression
583	Repression backlash
584	Reputation
585	Request for proposal

Id.	Descriptor
58	Bayesian equilibrium
59	Bayesian expected utility
60	Bayesian games
61	Bayesian learning
62	Bayesian mechanism design
63	Bayes–Nash equilibrium
64	Beauty contest
65	Behavioral economics
66	Belief elicitation
67	Belief-based learning
68	Bertrand equilibrium
69	Best response
70	Best-response correspondence
71	Bid caps
72	Bidding behavior
73	Bilateral bargaining
74	Bilateral trade
75	Bounded core
76	Bounded memory
77	Bribing
78	Bubble
79	Budget
80	Budget constraint
81	Buyer confusion
82	Calibration test
83	Candidate neutrality
84	Cash flow diversion
85	Characterization
86	Charity game
87	Chess
88	Children
89	Choking
90	Citation
91	Clearing house mechanism
92	Coalition formation
93	Coalition production economy
94	Coalitional game
95	Coalition-proof Nash equilibrium
96	Coalitions

Id.	Descriptor
	equilibria
322	Impression management
323	Improper priors
324	Impure altruism
325	Incentives
326	Incomplete information
327	Indifference
328	Indirect dominance
329	Indirect mechanism
330	Individual behavior
331	Individual characteristics
332	Individual decision-making
333	Individual rationality
334	Individually rational strategies
335	Indivisible good
336	Inequality
337	Inequality aversion
338	Infinite games
339	Infinite horizon
340	Information
341	Information advantage
342	Information disclosure
343	Information gathering
344	Information sharing
345	In-group favouritism
346	In-group punishment
347	Ingroup-outgroup
348	Initial wealth
349	Innovation
350	Insider
351	Integer programming
352	Intellectual property
353	Interactive epistemology
354	Interdependent payoffs
355	Intermediaries
356	Internet experiment
357	Internet vs. laboratory experiment
358	Intertemporal consumption
359	Intrinsic motivation
360	Invariance

Id.	Descriptor
586	Restricted cooperation
587	Revealed preference
588	Revelation principle
589	Revenue
590	Revenue equivalence
591	Revenue-maximization
592	Revenue-maximizing auction design
593	Revision protocols
594	Revolution
595	Revolutionary entrepreneurs
596	Reward
597	Rich support on a partition
598	Risk attitudes
599	Risk dominance
600	Risk preferences
601	Risky choice
602	Robust equilibrium
603	Robustness
604	Roommate problems
605	Roughly weighted game
606	Rounding
607	Routing games
608	Salience
609	Sameness
610	Samuelson's Colleague
611	Sanction
612	Scheduling
613	School choice matching
614	School tracking
615	Scoring games
616	Scoring rule
617	Screening
618	Sd-efficiency
619	Sd-no-envy
620	Search game on a network
621	Second-price auctions
622	Selection
623	Selectope
624	Self-assessment

Id.	Descriptor
97	Cognitive load
98	Cohesion
99	Coincidence
100	Coincidence of allocation rules
101	College admission
102	Combinatorial auctions
103	Combinatorial game theory
104	Common belief
105	Common knowledge
106	Common prior
107	Common-value all-pay auctions
108	Communication
109	Communication equilibrium
110	Competition for funds
111	Competitive prices
112	Competitiveness
113	Complementarity
114	Complete and incomplete information
115	Complete simple game
116	Complexity
117	Computation of equilibrium
118	Computational complexity
119	Conformity
120	Congestion
121	Congestion game
122	Consistency
123	Constant absolute risk aversion (CARA)
124	Constant relative risk aversion (CRRA)
125	Constructive methods
126	Consumer targeting
127	Consumption smoothing
128	Contagion
129	Contest design
130	Contestant
131	Continuous time
132	Continuum hypothesis
133	Contribution game
134	Convex game
135	Convex TU games

Id.	Descriptor
361	Invariant selection
362	IQ
363	Irreducible core
364	Job protection
365	Joint plan equilibrium
366	Kar solution
367	Keynes Plan
368	Kidney exchange
369	Knowledge and beliefs
370	Labels
371	Large auctions
372	Large elections
373	Large games
374	Learning
375	Learning in games
376	Licensing
377	Lobbying
378	Local imitation
379	Local interaction
380	Logit dynamic
381	Long-term interactions
382	Loose change effects
383	Loser
384	Lotteries
385	Lower-hemicontinuity
386	Lying aversion
387	Majoritarian rule
388	Mandate
389	Manipulation
390	Many-to-one matching
391	Marginal contribution
392	Market design
393	Market efficiency
394	Market for lemons
395	Market games
396	Markov decision processes
397	Markov equilibria
398	Maskin monotonicity
399	Matching markets

Id.	Descriptor
625	Self-confirming equilibrium
626	Self-control
627	Selfish bias
628	Selfishness
629	Semialgebraic geometry
630	Semi-Markov games
631	Separable preference
632	Separation oracle
633	Sequential ascending auctions
634	Sequential equilibrium
635	Series-parallel
636	Severance compensation
637	Shannon's number
638	Shapley operator
639	Shapley value
640	Shapley-Shubik index
641	Shocks
642	Signaling
643	Simple game
644	Simulated annealing
645	Single crossing
646	Single-dipped preferences
647	Single-peaked preference profiles with rich support on a partition
648	Social choice rules
649	Social comparisons
650	Social dilemma
651	Social image
652	Social interaction
653	Social learning
654	Social networks
655	Social norms
656	Social preference types
657	Socially concave games
658	Software for laboratory experiments
659	Solution concepts
660	Solvable game
661	Sprague–Grundy theory
662	Stable set
663	Stackelberg equilibrium

Id.	Descriptor
136	Cooperative equilibrium
137	Cooperative solution
138	Coordination failure
139	Coordination mechanisms
140	Core extension
141	Core stability
142	Corporate Social Responsibility
143	Correlated equilibrium
144	Correlated information
145	Correlated priors
146	Corruption
147	Cost monotonicity
148	Cost sharing
149	Costly disclosure
150	Cottle-Dantzig's algorithm
151	Count
152	Cournot equilibrium
153	Cournot oligopoly
154	Cournot tatonnement
155	Creativity
156	Credible deviation
157	Credit Choice
158	Criminals
159	Critical cost efficiency index
160	Current account imbalance
161	Cycle
162	De Bruijn sequences
163	Debt aversion
164	Deception
165	Decision rules
166	Deference
167	Deflationary bias
168	Delay
169	Delegated decision making
170	Delegation
171	Demand fluctuations
172	Determinacy
173	Deterministic regret-matching dynamics
174	Dicot

Id.	Descriptor
400	Matching with colleagues
401	Maximal variation of martingales
402	Maximizing expected Nash welfare
403	Maximum matching
404	Maxmin
405	Mental state
406	Meritocracy
407	Meta-analysis
408	Methodology
409	Milnor games
410	Minimum cost spanning tree problems
411	Minimum effort coordination game
412	Minority representation
413	Min-prenucleolus
414	Misdirected letter technique
415	Misère
416	Mispricing
417	Mistakes
418	Mixed games
419	Mixed markets
420	Mixed strategy
421	Monetary incentives
422	Monetary transfer
423	Monetised trading
424	Money
425	Monotone equilibrium
426	Monotone games
427	Monotonicity
428	Moral cost
429	Moral hazard
430	Motives
431	Multibattle
432	Multi-contest tournaments
433	Multi-dimensional cheap talk
434	Multi-dimensional mechanism
435	Multi-dimensional preferences
436	Multi-dimensional pricing
437	Multi-dimensional types
438	Multi-item auction

Id.	Descriptor
664	Stage duration
665	Stake size
666	Standard debt contract
667	Star-based number
668	State manipulation
669	State space
670	Stated effort
671	Status
672	Stereotypes
673	Stochastic dominance
674	Stochastic entry
675	Stochastic Eventual Perfect Monitoring
676	Stochastic game
677	Stochastic signals
678	Stochastic stability
679	Stopping game
680	Strategic complements
681	Strategic risk
682	Strategic stability
683	Strategic substitutes
684	Strategic uncertainty
685	Strategically stable set
686	Strength of preference
687	Strict and weak dominance
688	Strict equilibria
689	Strong acyclicity
690	Strong equilibrium
691	Structure theorem
692	Subgame-perfect equilibrium
693	Subjective beliefs
694	Subjective probability assessment
695	Subjectivism
696	Submodular valuations
697	Sucker's payoff
698	Sunspot equilibrium
699	Supermajority
700	Supermodular game
701	Survey response
702	Sustainability

Id.	Descriptor
175	Differential–difference games
176	Differentiation
177	Diffusion
178	Digraph
179	Direct and indirect reciprocity
180	Direct dominance
181	Directed graph
182	Directed search
183	Discontinuous game
184	Dishonesty
185	Distributional equilibria
186	Distrust
187	Double auction mechanism
188	Downs-Thomson Paradox
189	Dutch book
190	Dynamic arrivals
191	Dynamic auction
192	Dynamic inconsistency
193	Dynamic markets
194	Dynamic moral hazard
195	Dynamics
196	Economic experiment
197	Economy-based ranking
198	Edgeworth equilibrium
199	Education
200	Egalitarianism
201	Elicitation effects
202	Elicitation methods
203	Ellipsoid method
204	Emotion
205	Empathy wage
206	Endogeneity
207	Endogenous ascending
208	Endogenous descending
209	Endogenous entry
210	Endogenous timing
211	Entitlements
212	Entropy
213	Entry cost
214	Epistemic game theory

Id.	Descriptor
439	Multilateral bargaining
440	Multilateral legislative bargaining
441	Multimarket contact
442	Multi-product pricing
443	Mutual control structure
444	Myerson–Satterthwaite theorem
445	Name independence
446	Nash bargaining
447	Nash bargaining solution
448	Nash equilibrium refinements
449	Natural field experiment
450	Negative semidefinite games
451	Neologism proofness
452	Network formation
453	Network games
454	NIM
455	No betting and no trade
456	No trade theorem
457	Non expansive map
458	Nonatomic games
459	Non-cooperative bargaining
460	Non-existence
461	Nonlinear returns
462	Non-monetised trading
463	Non-monotonic contract
464	Non-monotonic payoffs
465	Non-zero-sum game
466	No-regret dynamics
467	Norm enforcement
468	Normalized citation count
469	Normalized giving
470	NTU games
471	Nucleolus
472	Objection
473	Observable effort
474	Oligopoly
475	One-shot games
476	Online dating
477	Opinion formation
478	Optimal contracting

Id.	Descriptor
703	Symmetric game
704	Symmetry
705	Take-option
706	Taking
707	Target adjustment
708	Tauberian theorem
709	Taxation
710	Taxation principle
711	Team incentive
712	Teams versus individuals
713	Temptation
714	Termination
715	Testing forecasters
716	The dynamic pivot mechanism
717	The extended serial correspondence
718	The Method of Resolving Functions
719	The Steiner point
720	The value of other's perceptions
721	Thinking steps
722	Third party
723	Third-party punishment
724	Three-person game
725	Tiebout
726	Tie-breaking
727	Time
728	Time consistency
729	Tit-for-tat
730	Top trading cycles
731	Topological dynamics
732	Totally positive TU-game
733	Tournament
734	Trading behavior
735	Transfer invariance
736	Transferable utility game
737	Traveler's dilemma
738	Traveling and search costs
739	Truth wins
740	Turnout
741	Two player repeated games
742	Two-person sum game

Id.	Descriptor
215	Equal (Surplus) Division rule
216	Equilibrium
217	Equilibrium existence
218	Equilibrium non-existence
219	Equilibrium refinement
220	Equity
221	Error term
222	Escalation
223	Euclidean preferences
224	Eurozone
225	Evolution equation
226	Evolution of behavior
227	Evolutionary dynamics
228	Evolutionary game theory
229	Exact potential games
230	Exactness
231	Exchange economy
232	Existence of pure-strategy equilibrium
233	Expectation
234	Experience
235	Experiential punishment
236	Experimental design
237	Experimental methodology
238	Experimental methods
239	Experimental political science
240	Expertise
241	Extendibility
242	Extensive-form rationalizability
243	External angle
244	External validity
245	Extortion
246	Extreme value theory
247	Extremism
248	Extrinsic motivation
249	Eye-tracking
250	Fairness norms
251	False-name-proofness
252	Family background
253	Feature-based choice
254	Feedback

Id.	Descriptor
479	Orthogonality
480	Out-group punishment
481	Output-sharing
482	Outside opportunities
483	Outside options
484	Overconfidence
485	Overlapping generations
486	PageRank
487	Pareto dominance
488	Partially or fully informative equilibria
489	Partitioning equilibrium
490	Partnership solution
491	Patents
492	Paternalism
493	Pay to conceal
494	Pay to reveal
495	Payoff asymmetry
496	Peer pressure
497	Peer-to-peer fundraising
498	Perception
499	Perfect equilibrium
500	Perfect information
501	Perfect information game
502	Perfection
503	Persistent equilibria
504	Personality traits
505	Persuasion games
506	Perturbation analysis
507	Pessimism
508	Piece-rate equivalents
509	Pillage games
510	Polish space
511	Polluted river games
512	Poor convexity
513	Population monotonic allocation scheme
514	Positive core
515	Positive prekernel
516	Posterior
517	Potential games
518	Power index

Id.	Descriptor
743	Two-point strategy
744	Type spaces
745	Ulam–Warburton cellular automaton
746	Ultimatum game
747	Undominated strategies
748	Uniform price
749	Uniform value
750	Uninformative equilibria
751	Uniqueness
752	Universal type space
753	Universally measurable
754	Universally nonmeasurable
755	Upper-hemicontinuity
756	Utility proportional beliefs
757	VCG mechanism
758	Veto mechanism
759	Veto power
760	Voluntary contribution mechanism
761	Voluntary provision
762	Voluntary work
763	Volunteer's dilemma
764	Vote of confidence procedure
765	Voter anonymity
766	Voting by committees
767	Voting experiments
768	Voting power
769	Voting rules
770	Voting systems
771	Voting theory
772	Waiting times
773	Walrasian equilibrium
774	Weak Addition Invariance
775	Weak topology on probability measures
776	Weakly dominated strategy
777	Weakly unilaterally competitive game
778	Weighted game
779	Weighted majority game
780	Weighted payoffs
781	Weighted Shapley value
782	White Plan

Id.	Descriptor
255	Fibonacci numbers
256	Fictitious play
257	Field experiment
258	Finite game
259	Finite improvement property
260	Finite payoff security
261	Firing threats
262	First price auction
263	Fixed point
264	Fixed-route traveling salesman problem

Id.	Descriptor
519	Power of asking
520	Predictability
521	Preference change
522	Preference for experimentation
523	Preference signaling
524	Prenucleolus
525	Price advertising
526	Price complexity
527	Price dispersion
528	Price efficiency

Id.	Descriptor
783	Willingness-to-compete
784	Willpower
785	Winner
786	Winner's curse
787	Worst-case analysis
788	Zeckendorf's theorem
789	Zero-determinant strategies
790	Zero-sum stochastic games

2.4.2 Laboratories

Id.	Name	Institution	Acronym	Country
28	Laboratory for Experimentation in Social Sciences and Behavioral Analysis	Burgundy School of Business	LESSAC	France
29	Behavioral Lab	INSEAD-Sorbonne University		France
30	Behavioral and Experimental Economics Research Unit	Toulouse School of Economics / IAST		France
31	Grenoble Applied Economics Lab	University Grenoble Alpes / Grenoble INP / CNRS / INRA	GAEL	France
32	GATE Lab	University Lyon 2		France
33	Montpellier Laboratory for Theoretic and Applied Economics	University of Montpellier 1	LAMETA / LEEM	France
34	Parisian Experimental Economics Laboratory	University of Paris 1	LEEP	France
35	Social Sciences Experimental Laboratory	University of Rennes 1	LABEX-EM	France
36	Bureau for Economic Theory and Applications	University of Strasbourg / University of Lorraine / CNRS	BETA Lab	France
61	Energy and Environmental Policy Laboratory	University of Piraeus		Greece
62	Vernon Smith Center for Experimental Economics	Francisco Marroquin University		Guatemala
64	Experimental Economics Laboratory	Ben-Gurion University of the Negev		Israel
65	RatioLab - Interactive Decision Laboratory	Hebrew University of Jerusalem		Israel
66	Laboratory of Behavioral Research	Technion - Israel Institute of Technology		Israel
77	Economics Laboratory of the Research Center for Behavioral Economics	Osaka University / MEXT		Japan
78	Busara Center for Behavioral Economics			Kenya
79	ESE EconLab	Erasmus School of Economics		Netherlands
80	Behavioral and Experimental Economics Lab	Maastricht University	BEElab	Netherlands
81	Decision Lab / VISA Skills Lab	Radboud University		Netherlands
82	CentERlab	Tilburg University		Netherlands
83	Center for Research in Experimental Economics and Political Decision Making	University of Amsterdam	CREED	Netherlands
84	Experimental Laboratory for Sociology and Economics	Utrecht University	ELSE	Netherlands
85	New Zealand Experimental Economics Laboratory	University of Canterbury	NZEEL	New Zealand
86	Centre for Experimental Studies and Research	Norwegian Business School	CESAR	Norway
87	The Choice Lab	Norwegian School of Economics		Norway
88	Oslo Economics Laboratory	University of Oslo	OEconLab	Norway
89	Experimental Economics Laboratory	University of Warsaw		Poland
101	JEDI Lab	Linköping University		Sweden
102	Experimental Economics Laboratory	University of Gothenburg		Sweden
104	Taiwan Social Science Experimental Laboratory	National Taiwan University	TASSEL	Taiwan
105	Bilgi Economics Lab of Istanbul	Istanbul Bilgi University	BELIS	Turkey
106	Behavioral and Experimental Lab	Middle East Technical University		Turkey

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