Question Answering in short texts (<512 tokens)

Example 1. Extracted from https://www.ducksters.com/history/civil_rights/

Civil rights are basic rights that every citizen has under the laws of the government. In the United States the civil rights of each individual citizen are protected by the Constitution. Civil rights for every person means that regardless of gender, skin color, religion, nationality, age, disability, or religion, a person should not be discriminated against. Civil rights include the right to free speech, privacy, religion, assembly, a fair trial, and freedom of thought.

Questions

What are civil rights?
What does civil rights mean?
What are examples of civil rights?

Tokens per model and question+corpus pair

Question	ktrapeznikov/ albert-xlarge-v2-squad-v2	twmkn9/albert-base-v2-squad2	mrm8488/bert-tiny-5-finetuned-squadv2	bert-large-uncased-whole-word-masking-finetuned-squad	distilbert-base-cased-distilled-squad	mrm8488/ longformer-base-4096-finetuned-squadv2	google/ bigbird-base-trivia-itc
What are civil rights?	99	99	100	100	100	100	99
What does civil rights mean?	100	100	101	101	101	101	100
What are examples of civil rights?	101	101	102	102	102	102	101

Answers

Question	ktrapeznikov/albert-xlarge-v2-squad-v2	twmkn9/albert-base-v2-squad2	mrm8488/bert-tiny-5-finetuned-squadv2	bert-large-uncased-whole-word-masking-finetuned-squad	distilbert-base-cased-distilled-squad	mrm8488/longformer-base-4096-finetuned-squadv2	google/bigbird-base-trivia-itc
What are civil rights?	basic rights that every citizen has under the laws of the government	basic rights that every citizen has under the laws of the government	right to free speech, privacy, religion, assembly, a fair trial, and freedom of thought	basic rights that every citizen has under the laws of the government	basic rights that every citizen has under the laws of the government	basic rights that every citizen has under the laws of the government	Constitution
What does civil rights mean?	regardless of gender, skin color, religion, nationality, age, disability, or religion, a person should not be discriminated against	regardless of gender, skin color, religion, nationality, age, disability, or religion, a person should not be discriminated against	regardless of gender, skin color, religion, nationality, age, disability, or religion, a person should not be discriminated against. civil rights include the right to free speech, privacy, religion, assembly, a fair trial, and freedom of thought	basic rights that every citizen has under the laws of the government. in the united states the civil rights of each individual citizen are protected by the constitution. civil rights for every person means that regardless of gender, skin color, religion, nationality, age, disability, or religion, a person should not be discriminated against	basic rights that every citizen has under the laws of the government. In the United States the civil rights of each individual citizen are protected by the Constitution. Civil rights for every person means that regardless of gender, skin color, religion, nationality, age, disability, or religion, a person should not be discriminated against	regardless of gender, skin color, religion, nationality, age, disability, or religion, a person should not be discriminated against	
What are examples of civil rights?	free speech, privacy, religion, assembly, a fair trial, and freedom of thought	free speech, privacy, religion, assembly, a fair trial, and freedom of thought	right to free speech, privacy, religion, assembly, a fair trial, and freedom of thought	free speech, privacy, religion, assembly, a fair trial, and freedom of thought	the right to free speech, privacy, religion, assembly, a fair trial, and freedom of thought	the right to free speech, privacy, religion, assembly, a fair trial, and freedom of thought	[SEP]

Example 2. Extracted from https://www.ducksters.com/biography/artists/pablo_picasso.php

Pablo Picasso grew up in Spain where he was born on October 25, 1881. His father was a painter and art teacher. Pablo liked to draw from an early age. Legend has it that his first word was "piz", short for "pencil" in Spanish. It soon became apparent that Pablo had little interest in school, but was an extremely talented artist.

When he was fourteen Pablo attended a famous art school in Barcelona. A few years later he went to another school in Madrid. However, Pablo was bored with the classic teachings of art school. He didn't want to paint like people hundreds of years ago. He wanted to create something new.

In 1901, Pablo's close friend Carlos Casagemas committed suicide. Pablo became very sad. Around the same time he began painting in Paris. For the next four years his paintings were dominated by the color blue. Many of the subjects were sad and somber looking. He painted people with elongated features and faces. Some of his paintings from this period include Poor People on the Seashore and The Old Guitarist.

Questions

Who is Pablo Picasso?
Where is Picasso from?
When did he went to school?
Who committed suicide?
What did he paint?

Tokens per model and question+corpus pair

Question	ktrapeznikov/albert-xlarge-v2-squad-v2	twmkn9/albert-base-v2-squad2	mrm8488/bert-tiny-5-finetuned-squadv2	bert-large-uncased-whole-word-masking-finetuned-squad	distilbert-base-cased-distilled-squad	mrm8488/longformer-base-4096-finetuned-squadv2	google/bigbird-base-trivia-itc
Who is Pablo Picasso?	226	226	223	223	225	236	231
Where is Picasso from?	226	226	223	223	225	236	231
When did he went to school?	228	228	225	225	227	237	232
Who committed suicide?	225	225	222	222	224	234	229
What did he paint?	226	226	223	223	225	235	230

Answers

Question	ktrapeznikov/albert-xlarge-v2-squad-v2	twmkn9/albert-base-v2-squad2	mrm8488/bert-tiny-5-finetuned-squadv2	bert-large-uncased-whole-word-masking-finetuned-squad	distilbert-base-cased-distilled-squad	mrm8488/longformer-base-4096-finetuned-squadv2	google/bigbird-base-trivia-itc
Who is Pablo Picasso?	painter and art teacher. pablo liked to draw from an early age. legend has it that his first word was "piz", short for "pencil" in spanish. it soon became apparent that pablo had little interest in school, but was an extremely talented artist	an extremely talented artist	his father	his father was a painter and art teacher	His father was a painter and art teacher	extremely talented artist	[SEP]
Where is Picasso from?	spain	spain	spain	spain	Spain	Spain	Spain
When did he went to school?	when he was fourteen	a few years later he went to another school in madrid	october 25, 1881	fourteen	fourteen	fourteen	fourteen
Who committed suicide?	carlos casagemas	carlos casagemas	carlos casagemas	carlos casagemas	Carlos Casagemas	Carlos Casagemas	Picasso
What did he paint?	people with elongated features and faces	people with elongated features and faces	like people hundreds of years ago	people with elongated features and faces	people with elongated features and faces	blue	Picasso

Example 3. Extracted from https://www.sciencedirect.com/science/article/pii/S1878535217300990

Nanotechnology is a known field of research since last century. Since "nanotechnology" was presented by Nobel laureate Richard P. Feynman during his well famous 1959 lecture "There's Plenty of Room at the Bottom" (Feynman, 1960), there have been made various revolutionary developments in the field of nanotechnology. Nanotechnology produced materials of various types at nanoscale level. Nanoparticles (NPs) are wide class of materials that include particulate substances, which have one dimension less than 100 nm at least (Laurent et al., 2010). Depending on the overall shape these materials can be 0D, 1D, 2D or 3D (Tiwari et al., 2012). The importance of these materials realized when researchers found that size can influence the physiochemical properties of a substance e.g. the optical properties. A 20-nm gold (Au), platinum (Pt), silver (Ag), and palladium (Pd) NPs have characteristic wine red color, yellowish gray, black and dark black colors, respectively. Fig. 1 shows an example of this illustration, in which Au NPs synthesized with different sizes. These NPs showed characteristic colors and properties with the variation of size and shape, which can be utilized in bioimaging applications (Dreaden et al., 2012). As Fig. 1 indicates, the color of the solution changes due to variation in aspect ratio, nanoshell thickness and % gold concentration. The alteration of any of the above discussed factor influences the absorption properties of the NPs and hence different absorption colors are observed.

NPs are not simple molecules itself and therefore composed of three layers i.e. (a) The surface layer, which may be functionalized with a variety of small molecules, metal ions, surfactants and polymers. (b) The shell layer, which is chemically different material from the core in all aspects, and (c) The core, which is essentially the central portion of the NP and usually refers the NP itself (Shin et al., 2016).

Who invented nanotechnology?
What are nanoparticles?
Which are the applications of nanoparticles?
What is the core of a nanoparticle?

Tokens per model and question+corpus pair

Question	ktrapeznikov/albert-xlarge-v2-squad-v2	twmkn9/albert-base-v2-squad2	mrm8488/bert-tiny-5-finetuned-squadv2	bert-large-uncased-whole-word-masking-finetuned-squad	distilbert-base-cased-distilled-squad	mrm8488/longformer-base-4096-finetuned-squadv2	google/bigbird-base-trivia-itc
Who invented nanotechnology?	462	462	438	438	459	438	431
What are nanoparticles?	464	464	439	439	460	438	431
Which are the applications of nanoparticles?	467	467	442	442	463	441	434
What is the core of a nanoparticle?	467	467	443	443	464	442	435

Answers

Question	ktrapeznikov/albert-xlarge-v2-squad-v2	twmkn9/albert-base-v2-squad2	mrm8488/bert-tiny-5-finetuned-squadv2	bert-large-uncased-whole-word-masking-finetuned-squad	distilbert-base-cased-distilled-squad	mrm8488/longformer-base-4096-finetuned-squadv2	google/bigbird-base-trivia-itc
Who invented nanotechnology?	richard p. feynman	richard p. feynman	richard p. feynman	richard p. feynman	Richard P. Feynman	Richard P. Feynman	Richard P. Feynman
What are nanoparticles?	wide class of materials that include particulate substances	particulate substances	wide class of materials that include particulate substances	wide class of materials that include particulate substances	particulate substances	wide class of materials that include particulate substances	[SEP]
Which are the applications of nanoparticles?	bioimaging applications	[CLS]	wide class of materials that include particulate substances	bioimaging applications	bioimaging	bioimaging	[SEP]
What is the core of a nanoparticle?	essentially the central portion of the np	[CLS]	shell layer	the central portion	[CLS]	the central portion of the NP	[SEP]

Question answering in medium texts (< 1024 tokens)

Example 1. Extracted from https://www.scientificamerican.com/article/first-nuclear-detonation-created-impossible-quasicrystals/

Scientists searching for quasicrystals—so-called 'impossible' materials with unusual, non-repeating structures—have identified one in remnants of the world's first nuclear bomb test.

The previously unknown structure, made of iron, silicon, copper and calcium, probably formed from the fusion of vapourized desert sand and copper cables. Similar materials have been synthesized in the laboratory and identified in meteorites, but this one, described in Proceedings of the National Academy of Sciences on 17 May, is the first example of a quasicrystal with this combination of elements.

Quasicrystals contain building blocks of atoms that—unlike those in ordinary crystals—do not repeat in a regular, brickwork-like pattern. Whereas ordinary crystal structures look identical after being translated in certain directions, quasicrystals have symmetries that were once considered impossible: for example, some have pentagonal symmetry, and so look the same if rotated by one-fifth of a full twist.

Materials scientist Daniel Shechtman, now at the Technion Israel Institute of Technology in Haifa, first discovered such an impossible symmetry in a synthetic alloy in 1982. It had pentagonal symmetry when rotated in each of various possible directions, something that would occur if its building blocks were icosahedral—that is, had a regular shape with 20 faces. Many researchers initially questioned Shechtman's findings, because it is mathematically impossible to fill space using only icosahedrons. Shechtman ultimately won the 2011 Nobel Prize in Chemistry for the discovery.

At around the same time, Paul Steinhardt, a theoretical physicist now at Princeton University in New Jersey, and his collaborators had begun to theorize the possible existence of non-repeating 3D structures. These had the same symmetry as an icosahedron, but were assembled from building blocks of several different types, which never repeated in the same pattern—thus explaining why the mathematics of symmetrical crystals had missed them. Mathematical physicist Roger Penrose, now at the University of Oxford, UK, and other researchers had previously discovered analogous patterns in two dimensions, which are called Penrose tilings.

Steinhardt recalls the moment in 1982 when he first saw the experimental data from Shechtman's discovery and compared it with his theoretical predictions. "I stood up from my desk and went and looked at our pattern, and you couldn't tell the difference," he says. "So that was kind of an amazing moment."

In subsequent years, materials scientists synthesized several types of quasicrystal, expanding the range of possible forbidden symmetries. And Steinhardt and his colleagues later found the first naturally occurring 'icosahedrite' in fragments from a meteorite recovered on the Kamchatka Peninsula in Eastern Siberia. This quasicrystal probably formed in a collision between two asteroids in the early Solar System, Steinhardt says. Some of the lab-made quasicrystals were also produced by smashing materials together at high speed, so Steinhardt and his team wondered whether the shockwaves from nuclear explosions might form quasicrystals, too.

Questions

What was the structure made of?
What do quasicrystals contain?
What did Daniel Shechtman discover?
What does icosahedral mean?
Why researchers questioned Shechtman?
What is Paul Steinhardt researching?
Who discovered Penrose tilings?
Where was the icosahedrite found?

Tokens per model and question+corpus pair

Question	ktrapeznikov/albert-xlarge-v2-squad-v2	twmkn9/albert-base-v2-squad2	mrm8488/bert-tiny-5-finetuned-squadv2	bert-large-uncased-whole-word-masking-finetuned-squad	distilbert-base-cased-distilled-squad	mrm8488/longformer-base-4096-finetuned-squadv2	google/bigbird-base-trivia-itc
What was the structure made of?	640	640	633	633	657	676	650
What do quasicrystals contain?	640	640	634	634	659	678	650
What did Daniel Shechtman discover?	641	641	634	634	658	677	651
What does icosahedral mean?	641	641	633	633	659	676	650
Why researchers questioned Shechtman?	640	640	633	633	657	676	650
What is Paul Steinhardt researching?	641	641	633	633	657	676	650
Who discovered Penrose tilings?	641	641	633	633	657	676	650
Where was the icosahedrite found?	643	643	635	635	660	678	652

Answers

Question	ktrapeznikov/albert-xlarge-v2-squad-v2	twmkn9/albert-base-v2-squad2	mrm8488/bert-tiny-5-finetuned-squadv2	bert-large-uncased-whole-word-masking-finetuned-squad	distilbert-base-cased-distilled-squad	mrm8488/longformer-base-4096-finetuned-squadv2	google/bigbird-base-trivia-itc
What was the structure made of?	iron, silicon, copper and calcium	iron, silicon, copper and calcium	pentagonal symmetry	iron, silicon, copper and calcium	iron, silicon, copper and calcium	<s>	iron
What do quasicrystals contain?	building blocks of atoms	building blocks of atoms	building blocks of atoms	building blocks of atoms	building blocks of atoms	building blocks of atoms	
What did Daniel Shechtman discover?	impossible symmetry in a synthetic alloy	impossible symmetry	[CLS]	an impossible symmetry	an impossible symmetry	<s>	
What does icosahedral mean?	had a regular shape with 20 faces	had a regular shape with 20 faces	symmetry	regular shape with 20 faces	regular shape with 20 faces	<s>	[SEP]
Why researchers questioned Shechtman?	it is mathematically impossible to fill space using only icosahedrons	it is mathematically impossible to fill space using only icosahedrons	it is mathematically impossible to fill space using only icosahedrons	it is mathematically impossible to fill space using only icosahedrons	it is mathematically impossible to fill space using only icosahedrons	it is mathematically impossible to fill space using only icosahedrons	[SEP]
What is Paul Steinhardt researching?	materials	quasicrystals	theoretical physicist	non - repeating 3d structures	quasicrystals	<s>	[SEP]
Who discovered Penrose tilings?	roger penrose, now at the university of oxford, uk, and other researchers	roger penrose	shechtman	roger penrose	Roger Penrose	Roger Penrose	Roger Penrose
Where was the icosahedrite found?	kamchatka peninsula in eastern siberia	kamchatka peninsula in eastern siberia	eastern siberia	kamchatka peninsula in eastern siberia	Kamchatka Peninsula in Eastern Siberia	fragments from a meteorite recovered on the Kamchatka Peninsula in Eastern Siberia	[SEP]

Question answering in large texts (> 1024 tokens)

Example 1. Extracted from https://www.sciencedirect.com/science/article/pii/S1462901119310457

Population projections indicate that trends of increased urbanization will continue (UN, 2018), which will increase pressure on the urban environment. This highlights the importance of creating sustainable urban living environments which are healthy, attractive and resilient to climate change (Estrada et al., 2017; Gill et al., 2007), but also to take an environmental justice and sustainable development perspective to urban development. This calls for moving towards generating, improving and maintaining social, economic and environmental justice by both scientists and practitioners.

A whole array of approaches is used to address urban sustainability, which for example focus on ecosystem services, ecosystem-based adaptation and mitigation, green and blue infrastructure, as well as nature-based solutions. An advantage of urban green interventions such as nature-based solutions is that they often provide multiple co-benefits (Raymond et al., 2017). For example, a park cools the city, captures precipitation, limits air pollution, and contributes to biodiversity and recreation. Moreover, introducing nature to a city can make the city aesthetically more attractive and increase social cohesion. However, there is insufficient knowledge on the way that different types of nature may affect other social domains such as gentrification. The latter refers to a process in which green urban renewal through the provision of ecosystem services creates added value on the property market as the effects of being located close to nature are capitalized in house value, which raises property and rental prices, and results in an influx of affluent people, displacing original poorer residents (Anguelovski et al., 2018). Hence, social injustices may be produced through ecosystem services-based urban policies and planning (Langemeyer, this issue). This possibility of green gentrification needs to be considered in urban planning since the most needy can be deprived of ecosystem services and their benefits that urban nature offers (Hochstenbach, 2017; Hochstenbach and Musterd, 2018). Gentrification is often associated with the United States, but green gentrification in particular is not a foreign concept in Europe or elsewhere, with many prominent cities seeing the departure of low-income residents in areas with improved green conditions (Harris, 2008; Gould and Lewis, 2016; Cole et al., 2019; Hochstenbach, 2017; Anguelovski et al., 2018).

A disturbing development for urban planners and dwellers is that gentrification is enhanced the past decades, with an increased percentage of lower income neighborhoods being displaced in 2000s compared to the 1990s (Maciag, 2015). Being caused by a variety of underlying processes, gentrification has recently been associated with the increased suburbanization of low-to-middle-income earners in Europe, and increased concentration of high-income earners in urban areas (Hochstenbach and Musterd, 2018). As an unintended consequence of green urban interventions, green gentrification signals latent social processes that urban planners need to acknowledge, monitor and manage to ensure that benefits of urban nature and ecosystem services provided by it can be universally promoted. Therefore, potential gentrification consequences of green renewal or other kinds of green interventions in residential areas need to be carefully considered before, during and after their introduction. Consideration should be given as to how environmental managers might focus activity and investment to balance environmental opportunities with the ongoing priorities of delivering socially inclusive, ecologically rich and climate change-resilient green spaces (Bell et al., 2017).

The hedonic pricing method is often used to measure the effect of environmental amenities on house prices. This method estimates the direct use value of nature to property owners as is embedded in house prices (for method background see Champ et al., 2003; for some recent applications see Sohn et al., 2020; Czembrowski and Kronenberg, 2016; Schläpfer et al., 2015). This analysis provides insights into the value local property owners attach to ecosystem services provided by nature in cities as is reflected in a willingness-to-pay as a mark-up for properties that are located close to urban nature sites. Insights into the benefits of nature-based solutions as well as the potential gentrification consequences of introducing nature to an area need to be considered by policy makers and city planners (Lafortezza et al., 2018), for which a better understanding of how house prices relate with different types of urban nature is useful.

In this study we perform a meta-analysis with the following objectives: to estimate relationships between property prices and different types of urban nature; and to illustrate the applicability of the derived value transfer function. Our study can provide first steps towards a better understanding and future modelling of potential implications of gentrification through house market dynamics, to limit adverse social impacts from the environmental justice and sustainable development perspectives on urban development. Our meta-analysis is based on 37 previously published hedonic pricing studies which estimated relationships between urban nature and house prices for specific areas. Even though conducting a primary hedonic pricing study in a particular area can give more reliable estimates for this particular area, such a study is data intensive and time consuming. In case a detailed site-specific valuation study is not feasible, applying benefit transfer method and value transfer functions in particular can serve as a useful alternative. Value transfer may also be useful for scaling up previous value estimates from local/regional to national or even continental levels, for example to estimate the impact of certain interventions at a European scale. We claim that such an application of value transfer may have the distinct advantage that transfer errors that occur at the local scales may average out at larger scales, potentially improving the accuracy and credibility of value transfer results. Further research on the validity of this claim is warranted. Moreover, a meta-analysis can give insights into overall patterns of results found in the literature of primary hedonic pricing studies (Bateman and Jones, 2003), and enhance our understanding of how different nature types, or green interventions, influence property price developments.

Our study extends a previous meta-analysis of hedonic house price relations with urban open space by Brander and Koetse (2011) in three ways. First, our study extends the types of urban nature (forest, park, green space, undeveloped land, and agricultural land) to also include blue nature, such as lakes, rivers and canals for a more detailed examination of how house prices relate with different urban nature types. Second, including more (recent) studies increases the statistical power of the analyses. Moreover, this update increases the number of included countries and regions, which allows estimating regional value transfer functions. Third, we illustrate the application of the derived value transfer function to actual nature-based solution projects from a recently developed database called the Urban Nature Atlas (www.naturvation.eu/atlas), and derive implications for gentrification. Quantitative assessment tools are thus complemented in our approach by visualised analytical tools, such as mapping, to plot price effects of proximity to new green projects on the housing markets in cities. By gaining a better understanding of the drivers of increased house prices, the issues associated with gentrification can be acknowledged, better monitored and addressed. In this way, this paper presents the quantification and assessment of ecosystem services and their impacts on urban populations by urban nature through interdisciplinary methods applied to understand distributive justice (Baró et al., 2020), with a particular focus on property markets as signal of potential green gentrification.

The remainder of this paper is structured as follows. Section 2 describes the database and statistical methods. Section 3 presents the results of the value functions and discusses how they compare with previous studies. Section 4 illustrates the applications of the derived value transfer functions to nature-based solution projects from the Urban Nature Atlas. Section 5 concludes.

2. Data and methods

The data used for the meta-model estimation contains observations that are value points obtained from primary hedonic pricing studies, evaluated at various distances from urban nature, which results in multiple value point observations per study. The meta-analysis presented in this paper builds on the earlier meta-analysis of primary hedonic price studies conducted by Brander and Koetse (2011) that analyzed the effects of urban green space on property prices. For reasons of consistency and comparability we have followed the same procedure for literature search as Brander and Koetse (2007) and Brander and Koetse (2011). In searching for studies specific key words were used which included three main components: valuation method, location, and the type of nature or ecosystem service. The resulting literature search yielded a collection of papers that included 37 new hedonic pricing studies that analyze the effect of proximity to both green and blue open spaces on house prices in urban areas. These articles were published between 2000 and 2017 and were not included in the original meta-analysis. Detailed description of the database is found in the Supplementary Material S1.

The meta-analysis presented in this study uses a multi-level model, in which value observations are at the first level and the primary study is the second level (see Bateman and Jones, 2003; Schmidt and Hunter, 2004; Brander and Koetse, 2011). The idea behind this approach is that there are characteristics in the context or in the methodological approach that determine whether observations are clustered at some levels. This means that clustered observations reveal systematic patterns between each other according to a specific characteristic, and not with other observations in the sample. Observations included in the model are weighted with the inverse square of sample size used in the primary study to account for the quality of primary estimates.

Questions

What do population projections indicate?
Which are the benefits of nature-based solutions?
What is the hedonic pricing method?
Which are the objectives of this study?
What does section 2 describe?
Where is the description of the database?

Tokens per model and question+corpus pair

Question	ktrapeznikov/albert-xlarge-v2-squad-v2	twmkn9/albert-base-v2-squad2	mrm8488/bert-tiny-5-finetuned-squadv2	bert-large-uncased-whole-word-masking-finetuned-squad	distilbert-base-cased-distilled-squad	mrm8488/longformer-base-4096-finetuned-squadv2	google/bigbird-base-trivia-itc
What do population projections indicate?	2038	2038	1966	1966	2000	1944	1926
Which are the benefits of nature-based solutions?	2041	2041	1970	1970	2004	1948	1930
What is the hedonic pricing method?	2040	2040	1969	1969	2003	1947	1928
Which are the objectives of this study?	2039	2039	1968	1968	2002	1946	1928
What does section 2 describe?	2037	2037	1966	1966	2000	1944	1926
Where is the description of the database?	2039	2039	1968	1968	2002	1946	1928

Answers

Question	ktrapeznikov/albert-xlarge-v2-squad-v2	twmkn9/albert-base-v2-squad2	mrm8488/bert-tiny-5-finetuned-squadv2	bert-large-uncased-whole-word-masking-finetuned-squad	distilbert-base-cased-distilled-squad	mrm8488/longformer-base-4096-finetuned-squadv2	google/bigbird-base-trivia-itc
What do population projections indicate?	trends of increased urbanization will continue	trends of increased urbanization will continue	that trends of increased urbanization	trends of increased urbanization will continue	trends of increased urbanization will continue	trends of increased urbanization will continue	climate change
Which are the benefits of nature-based solutions?	a park cools the city, captures precipitation, limits air pollution, and contributes to biodiversity and recreation	multiple co-benefits		multiple co - benefits	multiple co - benefits	multiple co-benefits	
What is the hedonic pricing method?	to measure the effect of environmental amenities on house prices	estimates the direct use value of nature to property owners as is embedded in house prices	to measure the effect of environmental amenities on house prices	estimates the direct use value of nature to property owners as is embedded in house prices	estimated relationships between urban nature and house prices for specific areas		[SEP]
Which are the objectives of this study?	to estimate relationships between property prices and different types of urban nature; and to illustrate the applicability of the derived value transfer function	delivering socially inclusive, ecologically rich and climate change-resilient green spaces	generating, improving and maintaining social, economic and environmental justice	to estimate relationships between property prices and different types of urban nature ; and to illustrate the applicability of the derived value transfer function	to estimate relationships between property prices and different types of urban nature ; and to illustrate the applicability of the derived value transfer function	to estimate relationships between property prices and different types of urban nature; and to illustrate the applicability of the derived value transfer function	[SEP]
What does section 2 describe?	the database and statistical methods	the database and statistical methods	the database and statistical methods	database and statistical methods	database and statistical methods	<s>	urban renewal
Where is the description of the database?	supplementary material s1	section 2	supplementary material s1	section 2	Supplementary Material S1	Supplementary Material S1	[SEP]