

**Bureau van Dijk historical
ownership databases**
-
User Guide
-
2020 Q4



BUREAU VAN DIJK

A Moody's Analytics Company

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1 INTRODUCTION

Historical ownership database is constituted by several Links files, one per year, and one Entity file.

Links files contain all the information of a link between a subsidiary and its parents: the percentage of ownership, the source of the information and the date of the validity of the information. A different link is given for each different type of relation identified between both entities: simple shareholder, Domestic Ultimate Owner (DUO), Global Ultimate Owner (GUO) - possibly following different definitions of Ultimate Owner-.

The Entities file contains limited information on each entity, being a subsidiary or a parent in one of the links files. Basic information result in BvD ID, name, country iso code and entity type. More information on each entity can be retrieved in Orbis by using the BvD ID (the corresponding Hard disk version must be used to avoid any disagreement due to BvD ID changes).

Historical files will be generated 2 times a year.

They are generated by using the data available in the current database. This means that any update, addition of new information or correction made in the current database will be taken into account to generate new historical files. The content of any Links file could be impacted.

All those changes will be communicated in this user guide, in [part II](#).

In [part I](#) you can find the description of the files as well as more information on the data.

Part I: Structure of the files and details on the data

2 Description of Links and Entities files

Historical ownership database is constituted by several Links files, one per year (Links_YYYY.txt), and one Entity file (Entities.txt). These are text files, tab delimited.

2.1 Selection of archived links for a specific year

For a specific date (e.g. 2010), Bureau van Dijk selects from all historical links available for a specific entity the ones respecting the following rules:

- The shareholder must have been confirmed between 1/1/2010 and 31/12/2010.
- If not, Bureau van Dijk accepts a shareholder confirmed in 2005 to 2009 if it is still confirmed as shareholder after 31/12/2010. Bureau van Dijk considers the shareholder was probably still a shareholder in 2010 but no information has been collected at that period to confirm it.
- In some specific cases, when for certain reasons a source has not been updated in 2010, to avoid losing too much information for a specific country and year, information for older years from such sources or countries are accepted as valid even if they are not confirmed after 31/12/2010.
- All shareholders, whatever their last information date is, still mentioned as current shareholder in the current database are considered as valid.

Shareholder became inactive prior to 31 December 2010 are rejected. Once all possible links have been selected from all historical information, a set of controls are launched (for example a control highlighting companies for which the shareholders have more than 100%). A set a cleaning rules has been set in place to make some automatic selection amongst the links.

A latest step is based on manual checks for each company identified in a control.

2.2 Structure of the Links file

Variables in Links files are:

Subsidiary BvD ID		see point 3.1
Subsidiary Independence Indicator		see point 3.3
Shareholder BvD ID		
Shareholder Independence Indicator		
Direct %	with 2 decimals	see point 3.4
Direct % (only figures)	with 2 decimals	
Total %	with 2 decimals	
Total % (only figures)	with 2 decimals	
Information date	YYYYMMDD	see point 3.5
Source	code of 2 letters	see point 3.6
Type of relation	see details below	see point 3.7
Active/archived	always active in the annual files, active and archived in the current file	
GUO 25	BvD ID	
GUO 25c	BVD ID	
GUO 50	BvD ID	
	BvD ID	
GUO 50c	BvD ID	
GUO 25JO	BvD ID	
GUO 25cJO		

In the links files we provide

- one line for each shareholder of first level, the specific role of the shareholder (immediate shareholder, Headquarter, Calculated Total Percentage (CTP)) is identified in the field 'Type of relation'.

BvD historical ownership databases

- one line for respectively DUO and GUO min 25% (any shareholder can be a GUO). A company can be its own GUO/DUO 25
- one line for respectively DUO and GUO min 50% (any shareholder can be a GUO). A company can be its own GUO/DUO 50
- one line for respectively DUO and GUO min 50% (only company with type B, C, A and F can be a GUO)
- one line for respectively DUO and GUO min 25% (only company with type B, C, A and F can be a GUO)
- In the cases of branches, beside the line mentioning the HQ, a second line mentions the HQ as immediate shareholder when the HQ has a GUO.
- Columns GUO 25, GUO 50 and GUO 50c, GUO 25c, GUO 25JO and GUO 25CJO are provided to ease the construction of the Corporate Group.

Remark on jointly owned companies

In case of jointly owned companies, 2 GUO 25 are available, the one of each joint parent. One is provided under the variable GUO 25 (GUO 25c) and the second one in the variable GUO 25JO (GUO 25cJO)

In case of both parents having the same GUO 25, it is provided twice in the 2 variables.

Below is an example of the data for a particular target firm in the U.S. (US169497636L) in 2010. This target firm has one unique shareholder (IT00825120157). A total of five links are identified between the target firm and its Italian shareholder ((IT00825120157), representing five different relation types – GUO 25C, GUO 50C, GUO 50, SHH, and ISH and one more link with an individual (ITPBRCDGV41L43F205F) representing a sixth relation type – GUO 25.

Additionally, a total of four links are identified between the target firm and its U.S. shareholder (US169497636L, which in this example happens to be the target firm itself), again representing four different relation types – DUO 25, DUO 25C, DUO 50, and DUO 50C. As you can see, BvD also provides the BVDID of the GUO 25, GUO 50, GUO 50C, and GUO 25C as separate variables, which is done to help users identify target firms belonging to the same global ultimate owner.

Subsidiary BvD ID	Subsidiary Independence Indicator	Shareholder BvD ID	Shareholder Independence Indicator	Direct %	Direct % (only figures)	Total %	Total % (only figures)	Information date	Source	Type of relation	Active / archived	GUO 25	GUO 50	GUO 50c	GUO 25c
US169497636L	D	IT00825120157	B+	100.00	100.00	100.00	100.00	20101231	HO	SHH	active	ITPBRCDGV41L43F205F	IT00825120157	IT00825120157	IT00825120157
US169497636L	D	IT00825120157	B+	100.00	100.00	100.00	100.00	20101231	VD	GUO 25C	active	41L43F205F	0157	0157	0157
US169497636L	D	IT00825120157	B+	100.00	100.00	100.00	100.00	20101231	VD	GUO 50	active	41L43F205F	0157	0157	0157
US169497636L	D	IT00825120157	B+	100.00	100.00	100.00	100.00	20101231	VD	GUO 50C	active	ITPBRCDGV41L43F205F	IT00825120157	IT00825120157	IT00825120157
US169497636L	D	IT00825120157	B+	100.00	100.00	100.00	100.00	20101231	HO	ISH	active	ITPBRCDGV41L43F205F	IT00825120157	IT00825120157	IT00825120157
US169497636L	D	ITPBRCDGV41L43F205F	-	-	NULL	n.a.	NULL	20101231	VD	GUO 25	active	41L43F205F	0157	0157	0157
US169497636L	D	US169497636L	D	100.00	100.00	100.00	100.00	20101231	VD	DUO 25	active	ITPBRCDGV41L43F205F	IT00825120157	IT00825120157	IT00825120157
US169497636L	D	US169497636L	D	100.00	100.00	100.00	100.00	20101231	VD	DUO 25C	active	ITPBRCDGV41L43F205F	IT00825120157	IT00825120157	IT00825120157
US169497636L	D	US169497636L	D	100.00	100.00	100.00	100.00	20101231	VD	DUO 50	active	ITPBRCDGV41L43F205F	IT00825120157	IT00825120157	IT00825120157
US169497636L	D	US169497636L	D	100.00	100.00	100.00	100.00	20101231	VD	DUO 50C	active	ITPBRCDGV41L43F205F	IT00825120157	IT00825120157	IT00825120157

2.3 Structure of the entities file

Variables in Entities files are:

BvD ID of the subsidiary or shareholder	
Name	
Country ISO code	2 digits
Entity type	1 letter

[see point 3.2](#)

3 Data in detail

3.1 BvD ID

Each entity is identified by a BvD Id.

A BvD ID number is composed of two parts:

- The first two characters correspond to the two digit ISO country code where the company is incorporated. Example: the first two characters of a company incorporated in Belgium will be 'BE'. The first two characters of a company whose primary trading address is in Hong-Kong but who is incorporated in Bermuda will be 'BM'.
- The following characters will be the [official company ID](#) if this number is known. If it is not known, the following characters will be the internal identification number used by the information provider.

For individuals or entities not provided by any of the providers, Bureau van Dijk create an identifier composed with the iso country code, an asterisk and a numerical part. If the country code is not known, YY is used for companies and WW for individuals.

3.2 Entity types

Each entity at both ends of a link – shareholder or subsidiary – are given a “type” according to the following classification. The two categories (D and L) are made of bulk lists of shareholders, unidentified by their name.

- Bank	B
- Financial company	F
- Insurance company	A
- Industrial companies	C
This is a generic term; this category includes all companies that are not banks or financial companies nor insurance companies. They can be involved in manufacturing activities but also in trading activities (wholesalers, retailers, brokers, etc.). They include also companies active in B2B or B2C non-financial services.	
- Mutual & Pension Fund/Nominee/Trust/Trustee	E
- Foundation/Research Institute	J
- Public authorities, States, Governments	S
This category includes states, governmental agencies, governmental departments, or local authorities.	
- One or more known individuals or families	I
Besides single private individuals or families, shareholders designated by more than one named individual or families are in this category. The idea behind this is that they would probably exert their voting power together. This latter case corresponds to entries like:	
<ul style="list-style-type: none"> • "Mr. Gregory Edward Bailey & Mrs. Margaret Ethel Bailey"; • « Mme Bringaud et son fils » ; • « Mme Sotto et M Cohen » ; • « Families Courault and Andrivon ». 	
- Employees/Managers/Directors	M
This category raises a delicate issue. It could be considered as a collectively designated category, unable to jointly exert a power of control (just as the “public” in the case of the publicly listed companies). It could also be considered as syndicated and jointly exerting its voting power. It is this latter hypothesis that has been considered by Bureau van Dijk. This means that this category can	

be considered to be the Ultimate Owner of a given company (which is not the case for the categories "public" or for "Unnamed private shareholders, aggregated").	
- Self ownership	H
- Private equity firms	P
- Public	Z
Public is used only for publicly quoted companies.	
- Unnamed private shareholders, aggregated	D
This category includes entries indicating that there are more than one private shareholders, collectively designated. This includes entries like:	
<ul style="list-style-type: none"> • « Private shareholders » ; • « Private citizens (760) » ; • « 1073 Private persons » ; • "Private investors with less than 2%"; • "Private shareholders in United Arab Emirates". 	
When the number of shareholders is indicated, in most cases this concerns companies 10 character under a cooperative structure.	
- Other unnamed shareholders, aggregated	L
This category includes more than one unnamed shareholder, either companies (unnamed) or a mixture of companies and private owners. This includes entries like:	
<ul style="list-style-type: none"> • « Other shareholders » ; • « Affiliated companies » ; • « Australian institutional investors » ; • « Companies, Mutual funds & Trusts » ; • « More than 3000 shareholders » ; • « Financial and Insurance institutions » ; • « Leasing companies » ; • "Private citizens and Corporate entities"; • « Companies, Associations, Private persons ». 	
- Venture capital	V
- Hedge fund	Y
- Branch	Q
Marine Vessels	W

The three categories "Public", "Unnamed private shareholders, aggregated" and "Other unnamed shareholders, aggregated" are considered as unable to exert, as such, control over a company. They are disregarded in the qualification of the degree of independence of a company (see [Independence Indicator](#)) and, as a consequence, in the process of identification of the possible [Ultimate Owner](#) of a company.

The type of shareholders or subsidiaries directly impacts the classification of companies as [Independent](#) and [Ultimate Owners](#).

It can also be used to screen the database.

3.3 BvD Independence Indicator

To assist users in identifying independent companies, Bureau van Dijk has created an *Independence Indicator* to characterize the degree of independence of a company with regard to its shareholders. This *BvD Independence Indicator* is assigned to each company according to the logic defined below.

First note that the categories of shareholders collectively labelled by the sources are disregarded in the considerations below (since they are considered as unable to exert a controlling power over a company). They include:

- *Public* (used only for quoted companies)
- *Unnamed private shareholders, aggregated* (more than one unnamed individual or family, labelled as “*Private shareholders*”, “*Individual investors*”, “*Other individuals*”, etc.)
- *Other unnamed shareholders, aggregated* (more than one unnamed shareholder containing a mixture of companies or of companies and individuals or families).

For more details about the types of shareholders, click [here](#).

The *BvD Independence Indicators* are noted as **A**, **B**, **C**, **D** and **U**, with further qualifications.

3.3.1 Indicator A

Definition: Attached to any company with known recorded shareholders (excluding the 3 “collective” types indicated above) none of which having more than 25% of [direct or total ownership](#).

This is further qualified as A+, A or A-:

- A+:** Companies with 6 or more identified shareholders (of any type) whose ownership percentage is known
- A:** As above, but includes companies with 4 or 5 identified shareholders
- A-:** As above, but includes companies with 1 to 3 identified shareholders

The logic behind these qualifiers is that the probability of having missed an ownership percentage over 25% is the lowest when the greatest number of shareholders is known, so that the company’s degree of independence is more certain.

The qualification **A+** is also attributed to **A** companies in which the sum of direct ownership links (all categories of shareholders included) is over 75%. Which means that those companies cannot have an unknown shareholder with 25% or more and can thus not be identified with an Independence Indicator other than **A**.

Please note that Bureau van Dijk also gives an **A-** notation to a company that is mentioned by a [source](#) (*Annual Report, Private Communication or Information Provider*) as being the [Ultimate Owner](#) of another company, even when its shareholders are not mentioned.

As it can be seen from the above definitions, the qualifications “+” or “-” do not refer to a higher or a lower degree of independence but to the *degree of reliability* of the Indicator that is attributed.

In Bureau van Dijk terminology “**A**” companies are called “*Independent companies*”.

3.3.2 **Indicator B**

Definition: Attached to any company with a known recorded shareholder (excluding the 3 “collective” types mentioned above) none of which with an ownership percentage (direct, total or calculated total) over 50%, but having one or more shareholders with an ownership percentage above 25%.

The further qualification as **B+**, **B** and **B-** is assigned according to the same criteria relating to the number of recorded shareholders as for indicator A.

The qualification **B+** is also attributed to **B** companies in which the summation of direct ownership percentages (*all categories of shareholders included*) is 50.01% and higher. Indeed, this means that the company surely does not qualify under Independent Indicator C (since it cannot have an unknown shareholder with 50.01% or higher).

3.3.3 **Indicator C**

Definition: Attached to any company with a recorded shareholder (excluding the 3 “collective” types mentioned above) with a total or a calculated total ownership over 50%.

The qualification **C+** is attributed to **C** companies in which the summation of direct ownership percentage (*all categories of shareholders included*) is 50.01% or higher. Indeed, this means that the company surely does not qualify under Independent Indicator **D** (since it cannot have an unknown direct shareholder with 50.01% or higher).

The **C** indicator is also given to a company when a source indicates that the company has an ultimate owner, even though its percentage of ownership is unknown.

3.3.4 **Indicator D**

Definition: This is allocated to any company with a recorded shareholder (excluding the 3 “collective” types mentioned above) with a direct ownership of over 50%.

Branches, foreign companies and sole traders are also being attributed an indicator ‘D’.

3.3.5 **Indicator U**

Definition: Attached to any entity which is considered to be “independent” by nature (States and individuals) or to inactive companies.

3.4 TYPE OF PERCENTAGE: DIRECT AND TOTAL OWNERSHIP

Direct and total percentages are collected. Only one of them or both or none of them can be provided by the source of the information.

A **direct percentage** indicates a direct participation of the shareholder in the subsidiary.

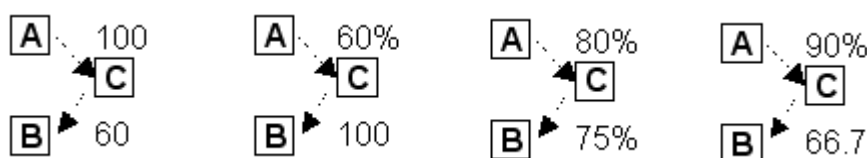
It is possible that a source gives both a direct and an **indirect percentage**. In such cases, Bureau van Dijk makes the summation of the direct and indirect percentages and notes it as Total. For the sake of simplicity, the indirect figures are not recorded in the Bureau van Dijk Ownership Database.

In some cases the information source indicates that entity A has a total stake in Company B without specifying the path through which the ownership is held.

This example shows a 60% Total ownership. Total ownership links are pictured with jagged lines.



This case can result from infinite situations involving 3 or more companies. In the examples below, direct links to and from company C are shown as dotted lines to indicate that the link is not recorded. The only known fact is that A indirectly owns 60% of B as shown above.



Even if these direct links between A and C and between C and B were known, Bureau van Dijk would not compute the weighted average of company A's stake in B to calculate the Total ownership figure. This is because Bureau van Dijk cannot assert for sure that other indirect links between A and B do not exist which would impact the calculation.

There are three kinds of links with total percentages in the database:

- a source mentions a link with or without a direct percentage but with a total one ;
- a source indicates that B is ultimately owned by A
- Bureau van Dijk calculates the [Calculated Total Percentage](#) (Link).

A Total ownership figure is displayed only if it is explicitly recorded in an information source.

A link between two entities is indicated even when the percentage is very small (less than 1%) or unknown. Information regarding US companies taken from the SEC Edgar Filings and the NASDAQ, however, stops at 1%.

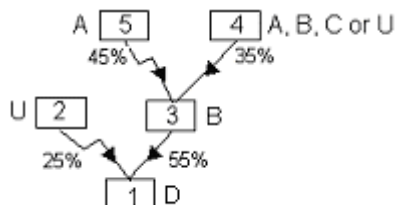
3.4.1 Voting / Non voting shares

The *Ownership Database* intends to track control relationships rather than patrimonial relationships. This is why, when there are 2 categories of shares split into *Voting/Non voting shares*, the percentages that are recorded are those attached to the category *Voting shares*.

3.4.2 Weighted percentages of ownership

Bureau van Dijk never computes weighted averaged percentages of indirect ownership between a shareholder and a subsidiary. This is because Bureau van Dijk cannot assert for certain that all existing links are recorded in the database. More importantly however, it is also because in certain cases of complex ownership structures, this could be misleading when trying to evaluate a controlling power.

For example, weighting ownership percentages would retain 24.75% of ownership of company 5 in company 1, which could lead to the conclusion that company 2 has a higher degree of control in company 1 than company 5.



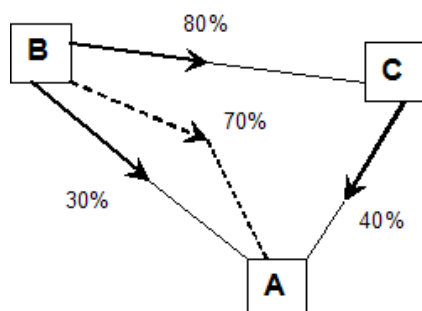
3.4.3 Calculated Total Percentage

To enhance the distinction between companies directly owned from those that are indirectly owned by a shareholder with more than 50%, Bureau van Dijk has decided to check whether companies with no recorded shareholder of more than 50% of direct ownership have some of their direct shareholders controlled by the same entity at the first or at a higher level. The concept of control follows the IFRS prescriptions according to which an entity (company, individual, etc.) controls a company as soon as it owns more than 50% of the ownership.

If two minority direct shareholders are controlled by a third minority direct shareholder or by a same entity at a higher level, Bureau van Dijk creates a Calculated Total Link between the subject company and the controlling company and calculates a total percentage by making the sum of the direct percentages of all minority direct shareholders controlled by the same controlling company. This process is based on the concept of percentage of control as opposed to the concept of percentage of interest.

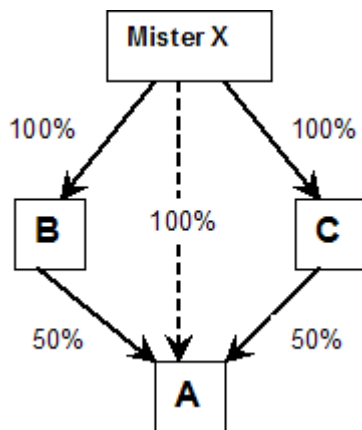
Some examples:

Example 1



- Company A is directly owned by B at 30% and by C at 40%
- Company C is also directly owned by B at 80%
- As B controls C, the Calculated Total percentage between A and B is $30\% + 40\% = 70\%$

Example 2



- Company A is jointly owned by B and C
- B and C are both owned at 100% by Mister X
- As mister X controls B and C, the Calculated Total Percentage between Mister X and Company A is 50%+ 50% =100%

The Calculated Total Percentage of the controlling company is used to define the [Independence Indicator](#) (a company with an Independence Indicator A or B could change to an Independence Indicator D if this percentage is higher than 50%) and the [Ultimate Owner](#) but it will never be displayed as a shareholder in the applications.

This is mainly due to 2 reasons:

- even if the scope of the Bureau van Dijk ownership database is very wide, Bureau van Dijk cannot absolutely assert that all the existing links are recorded in the database. More importantly, because certain ownership structures can be very complex, trying to evaluate a controlling power could be misleading.
- Bureau van Dijk cannot associate this Calculated Total percentage to a correct validity date because it results from information valid at different dates.

However if the Calculated Total Percentage is used in order to define the [Independence indicator](#) and the [Ultimate Owner](#), this will be indicated in the shareholder section, under the Ultimate Owner.

To be complete and share all the information Bureau van Dijk have, the CTP link is provided in the historical files. It is identified with the Type of relation 'CTP' for calculated percentage. The source is BvD and the validity date remains empty. This is to highlight the fact such percentage must be used carefully as they are calculated and not directly provided by a source.

3.4.4 Total Ownership percentage exceeding 100%

The total ownership percentage referenced for a company may exceed 100%. When Company A directly owns 100% of Company B and Company B owns 100% of Company C, there are three possible cases for the Shareholder section of the report for Company C. One case demonstrates a total ownership of 200%.

CASE 1

In this first case , the direct links between A and B and between B and C are recorded, however, no source mentions the total ownership of A in C. The company report will display the direct link between B and C and indicate the fact that A is the Ultimate Owner of C.

COMPANY C

SHAREHOLDERS

Company Name	Country	Ownership	Source	Date	Op. Revenue
		Direct	Total		(mil USD)

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<i>Ultimate Owner</i>							
- Company A	GB	-	100%	VD	12.04	19,943	<div> <div>A</div> <div>↓</div> <div>100</div> </div>
<i>Shareholders</i>							
- Company B	US	100%	100%	AR	12.04	2,117	<div> <div>B</div> <div>↓</div> <div>100%</div> <div>C</div> </div>

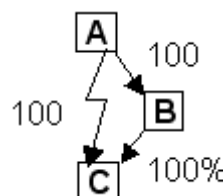
CASE 2

In the second case, information is the same as above; however, a source indicates that A holds a Total ownership of 100% in C. The two links are displayed in the report of company C and the Total ownership percentage then appears as 200%.

COMPANY C SHAREHOLDERS

Company Name	Country	Ownership	Source	Date	Op. Revenue	
		Direct	Total			
Ultimate Owner					(mil USD)	
- Company A	GB	-	100%	VD	12.04	19,943
Shareholders						
1. Company A	GB	-	100%	PC	12.04	19,943
2. Company B	US	100%	100%	AR	12.04	2,117

```
graph TD; A[A] -- 100% --> B[B]; A -- 100% --> C[C]; B -- 100% --> C;
```

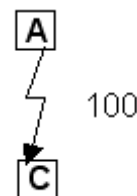


CASE 3

The last case shows when the database does not record any direct link between B and C, but a source mentions 100% indirect ownership of A in C. This known link appears in the report.

COMPANY C SHAREHOLDER S

Company Name	Country Ownership		Source	Date	Op. Revenue	<div><div>A</div><div><div></div><div></div></div><div>C</div><div>100</div></div>
		Direct	Total		(mil USD)	
Ultimate Owner						
- Company A	GB	-	100 %	VD	12.0 4 19,943	
Shareholders						
1. Company A	GB	-	100 %	PC	12.0 4 19,943	



3.4.5 Possible values for both direct & total %

When a source indicates that A owns a stake of B with a known percentage, the numeric value of the stake is displayed. Signs like "+/-", ">", or "<" can also be used before a figure.

In some cases, the source indicates that A owns a stake in B, but does not mention any percentage. In this case, if it is a direct %, '-' is displayed, if it is a total % 'n.a' is displayed

In other cases the source may mention the following indications:

Source indicates:	Corresponds to:
WO (for « wholly owned »)	>= 98.-%
MO (for « majority owned »)	>= 50.01%
JO (for « jointly owned »)	= 50.00%
NG (for « negligible »)	<= 0.01%
CQP1	50% + 1 share

GP	General Partner
BR	Branch
F	Foreign Company
T	Sole Trader

3.4.6 Direct % and Total % - figures only

'n.a.' and '-' are removed and other non numerical values are transformed in numerical values by using the following correspondence:

'> X	= X+0.01%
'< X	= X-0.01%
+/- X	= X
WO	= 98%
MO	= 50.01%
JO	= 50.00%
CQ+1	= 50.01%
NG	= empty
BR	= 100.00%
FC	= 100.00%
GP	= empty
T	= 100.00%

Note:

In some cases, when we have several shareholders with a percentage >X%, the sum of the converted values can be > 100% + some decimals.

We can have, for example, a company having 2 shareholders, one with a > 75% shareholding and the other with > 24.99%.

The percentage will be converted into 75.01 and 25.00, hence the sum of the direct percentage is 100.01%.

Sole traders/sole proprietorships

We have started to review the way we are treating sole traders regarding their shareholders/owner information. As a sole proprietorship is a type of business entity that is owned and run by one natural person (except Germany, see remark below) and in which there is no legal distinction between the owner and the business, when a shareholder is provided by a source we will now progressively identify this kind of relation adequately.

The % will be 'T' instead of 'n.a.' (100% as numerical value).

Please note that in Germany, a company can be owned by more than one person as sole trader. As a result the sum of the direct percentage – figures only can be > 100%

3.5 DATE OF THE INFORMATION

Each link is characterized by a date of validity. This is in principle the date at which the link has been observed between both entities with the specific percentage given in the link.

For example, the validity date of the information directly collected by Bureau van Dijk in the Annual reports of the companies or on Stock Exchanges is respectively the closing date of the annual report or the date mentioned by the Stock Exchange. This is different from the input date in the Ownership database.

There is one notable exception to this rule concerning the information collected from certain [Information Providers](#) by which the date associated to the information is, in fact, the date of transmission of the information by the IP to Bureau van Dijk or the input date in their own system.

That's why some treatments could be different depending on the source of the information as, for example, the treatment of conflicting information.

3.5.1 Different validity dates in the shareholding structure of a company

Bureau van Dijk is working with a very large panel of providers and, in addition, collects itself some information. Different sources of information could provide shareholders or subsidiaries of a same company but not necessarily at the same validity date and with a same level of details (some Ips for example provide only national shareholders or only shareholders with a percentage of ownership higher than 50%).

In order to provide an up-to-date information, all collected information is merged. This leads to 2 sources of heterogeneity in the data proposed in a company report

- heterogeneity of the sources throughout the links
- heterogeneity of the validity date throughout the links

Let us take an example with the shareholders of Company A.

At time T, Bureau van Dijk receives from an Information Provider that Company C owns 10% of Company A in June 2006.

Company C	with 10%	on June 2006
-----------	----------	--------------

At time T+1, Bureau van Dijk inputs the information collected in the annual report that ended in December 2005 of Company A. All shareholders with a percentage of over 5% are available. The following shareholders are inputted:

Company B	with 40%	on December 2005
Company C	with 10%	on December 2005
Company D	with 5%	on December 2005

In the Ownership Database the link coming from the Information Provider concerning the ownership of Company C in Company A is not replaced as Bureau van Dijk always prefers to present the more recent information.

Company B	with 40%	on December 2005	<i>Source: AR</i>
Company C	with 10%	on June 2006	<i>Source: IP</i>
Company D	with 5%	on December 2005	<i>Source: AR</i>

Thirdly, in the case that company A is listed, Bureau van Dijk checks daily the passing threshold on the different stocks around the world. Supposing that Company E acquires 15 % in Company A in July 2006, we insert one more link at a different date. Shareholders are now:

Company B	with 40%	on December 2005	<i>Source: AR</i>
Company C	with 10%	on June 2006	<i>Source: IP</i>
Company D	with 5%	on December 2005	<i>Source: AR</i>
Company E	with 15%	on July 2006	<i>Source: SE</i>

These differences in the validity date of the information presented are inevitable because Bureau van Dijk works link by link and not by company in order to provide the most up to date information.

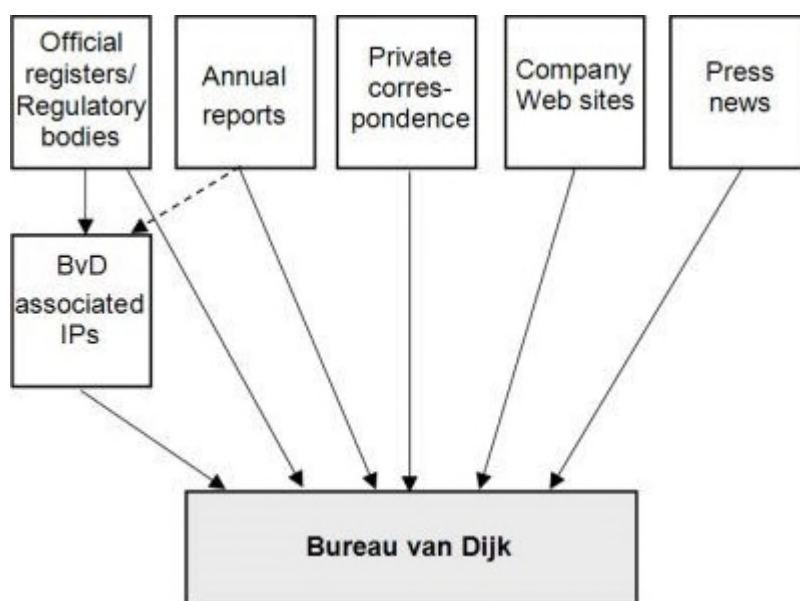
3.6 Information sources

3.6.1 Information Collection

Companies disclose ownership data themselves, either when they disclose their shareholders or list their subsidiaries. Such disclosures may or may not be mandatory according to company status (listed/unlisted) or ownership percentages. Laws and regulations regarding disclosure of ownership data vary widely between countries. The same is true for common company practices that, very often, go beyond the legal requirements.

Bureau van Dijk collects ownership information directly from the companies, from official bodies (when they are in charge of collecting this type of information) or from the associated information providers (IP) (who, in turn, have collected it either directly from the companies or via official bodies).

The collection process is represented in the following chart.



Annual Reports (RS or RM)

Annual reports are collected by Bureau van Dijk with the following results:

- **30,000** AR of non-US listed industrial companies;
- **18,000** AR of banks (listed & unlisted, US & non-US);
- **5,500** AR of insurance companies (listed & unlisted, US & non-US).

Annual reports of US listed industrial companies are not collected because Bureau van Dijk directly extracts the ownership information for these companies from the SEC Filings. (See below).

Information collected from annual reports is noted as follows:

- **RS** when it concerns the shareholders (which stands for Report of the Subsidiaries);
- **RM** when it concerns the subsidiaries (which stands for Report of the Mother);
- **AR** when the information comes from the annual report of a third company (not from the report of the Subsidiaries nor the report of the Mother)

Private correspondence (PC)

Bureau van Dijk sends letters directly to a vast number of companies to collect information about their shareholders.

Mailings are sent once a year to 30,000 corporations (non US, listed & unlisted). They are also sent twice a year to 18,000 banks (worldwide, listed & unlisted) and once a year to 5,500 insurance companies (worldwide, listed & unlisted). There are two types of written requests:

- a request for the company itself to verify the shareholder and subsidiary information as it is recorded in the Bureau van Dijk Ownership Database;
- a request for information from the company when none already exists on the database.

The response rate is 25% and constantly increasing, which is quite satisfactory by any standard.

Ownership links recorded from these written requests are marked **PC**.

The information collected with this procedure is extremely useful since it is:

- very comprehensive;
- totally reliable;
- Timely;
- accurately dated.

SEC Filings (PX or NQ)

For US listed companies, ownership information is systematically collected from the Free Edgar File via the Internet. This includes all companies filing "proxy statements". Links recorded from this source are noted **PX**.

These links cover all known shareholders (corporations or individuals) with an ownership percentage of 5% or more, as well as the ownership of directors and executive officers (with no lower ownership percentage limitation).

Data is gathered tracking lower levels percentages owned by corporations. This is done by querying the NASDAQ web-site under the entry "Detailed institutional holdings" available after having selected the company. (This covers all companies listed in the US stock exchanges, not only those listed on the NASDAQ). This procedure collects mainly ownership of mutual and pension funds. Links collected from this source are noted **NQ**.

The ownership information for companies listed on the US stock exchanges is very comprehensive in terms of both coverage and level of ownership.

It should be noted, however, that Bureau van Dijk limits its records to percentage levels of 1% and more, both for **PX** and **NQ** links.

Stock exchanges (SE)

In most stock exchanges, listed companies must declare shareholders that are above certain thresholds or are passing these thresholds. Bureau van Dijk has recently started to systematically collect this data. It is marked **SE**.

Information providers (IP)

Bureau van Dijk works with the premier providers of financial information in each market it covers. The Ips supply Bureau van Dijk primarily with annual accounts filed to official registers by the companies in their respective domestic markets. However, when local regulations require ownership information to be filed together with the accounts, this is collected by Ips and forwarded to Bureau van Dijk. Links recorded from information supplied by the associated Information Providers are marked **IP**. Click [here](#) for the list of the Bureau van Dijk Information Providers.

Company web-sites (WW)

More and more companies disclose ownership information on their web-sites. When the information cannot be collected through annual reports or private correspondence, web-sites are systematically scrutinized. Links collected this way are marked **WW**.

Telephone calls (TC)

When unclear or conflicting ownership information is collected or when specific questions arise regarding the data, Bureau van Dijk Electronic Publishing contacts the company directly by telephone or e-mail. The corrected links are marked **TC**.

Press News (PN)

Primarily for banks, Bureau van Dijk monitors news articles and press releases for changes or additions to the ownership data. Ownership links recorded from various press news sources are marked **PN**.

Additional sources (OS)

Zephyr.

BvD Research (BD)

Information collected by Bureau van Dijk on official websites such as Companies Registry, Chamber of Commerce

Bureau van Dijk (Foreign Companies (FC))

Bureau van Dijk research to link a foreign company to its headquarter.

3.6.2 Information Providers

AB	Credit Rating Agency of Bangladesh
AI	Auditoría Interna de la Nación (Uruguay)
BA	Bancscientific
BI	CIBI Information, Inc. (Philippines)
BV	Boa Vista Serviços S.A. (Brasil)
BZ	BizInsights
CA	3ACredit
CB	Creditreform (Bulgaria, Ukraine & North Macedonia)
CC	Chamber of Commerce & Industry of Romania
CD	Directories in Chinese
CF	Vistra (Ireland)
CG	Infocredit Group Ltd (Cyprus & Middle East)
CH	Ceginformacio.hu Kft.
CI	Experian (Norway)
CJ	CreditInfo (Jamaica)
CL	Creditreform Latvia (Latvia & Belarus)
CM	Creditreform Bulgaria (North Macedonia)
CN	Informa Colombia SA (Colombia)
CP	Credinform (Russia & Kazakhstan)
CS	Coface (Slovenia)

BvD historical ownership databases

CT	Global Legal Entity Identifier Foundation
CU	Cortera
DB	Dun & Bradstreet (Israel)
DC	DGILConsult (Nigeria)
DF	DC Frontiers
DI	Dataindo Inti Swakarsa (Indonesia)
DN	DataPro Limited (Nigeria)
DP	DP Information Group (Singapore)
DZ	Centre National du Registre du Commerce (CNRC)
EC	European Central Bank
EF	Equifax Peru
EP	Equifax Paraguay
FA	CRIF (Turkey)
FI	Suomen Asiakastieto (Finland)
FS	Factset
GR	Ghana (Registrar General Department)
HO	Cerved (Italy)
HR	Creditreform Croatia (Croatia)
HS	IHS Markit
HU	Huaxia Credit (China)
IA	IAPD - Investment Adviser Public Disclosure Database
IC	Creditinfo Group (Cyprus)
ID	Informa
IH	ICAP (Greece)
IN	Informa (Spain)
IR	InfoCredit (Poland)
IS	Informes Mexico
IW	Ibisworld (Australia)
JO	Vistra (UK, Ireland)
KA	ASAPInform (Kenya)
KG	Creditreform Lietuva (Lithuania)
KI	Creditinfo Eesti (Estonia)
KO	Experian (Denmark)
KS	NICE (Korea)
LC	Creditinfo Lanstraust (Iceland)
LN	Lexis Nexis (Netherlands)
LU	Bureau van Dijk (Luxembourg)
MC	Creditinfo (Malta)
MD	MeritDirect
MI	Creditreform Serbia (Bosnia-Herzegovina, Serbia & Montenegro)
ML	Market Location
MO	Coface Serviços Portugal
NB	National Bank of Belgium
NC	Novcredit (Italy)
OC	OpenCorporates

OF	CRIF Teledata AG (Suisse)
OM	OMPIC
PE	PEI Services Limited
QA	Quantum Database
RC	Cedar Rose
RT	Annual return (UK)
SC	Ellisphere (France)
SH	Creditinfo Schufa GmbH (Czech Republic, Slovakia, Iceland, Malta)
SL	Bisnode (Czech Republic & Slovakia)
SN	SeeNews
SR	Chinese source
ST	Statistics Canada (Canada)
TI	China Credit Information Service Ltd (Taiwan)
TJ	Taiwan Economic Journal (Taiwan)
TK	Teikoku (Japan)
TO	Total Credit Management Services Hong Kong Ltd
TU	TransUnion
UC	UC (Sweden)
VA	Veda Australia
VC	Creditreform
VE	Veraz
WB	Worldbox
WO	WhoOwnsWhom
WV	World'Vest Base Inc.
XB	National Bank of Belgium

3.6.3 Dealing with conflicting information

The [information source](#) reflecting the most recent date always takes precedence when conflicting information is discovered.

There is one notable exception to this rule concerning the information collected from the [Information Providers](#). The date associated to this information is, in fact, the date of transmission of the information by the IP to Bureau van Dijk. Bureau van Dijk does not know the validity date of the information itself. As a result, the adopted rule-of-thumb assumes that there is an average of six months delay between the validity and the transmission dates. The information collected from an IP on month "t", therefore, supersedes conflicting information coming from all other sources with a validity date anterior to month "t-6".

3.7 Type of relation

For each link we indicate the position of the shareholder:

SHH	A single shareholder of first level
	First level does not imply a direct participation, it means that Bureau van Dijk has received the information a link is existing between both entities, direct % and/or total % can be known or not.
CTP	A first level shareholder identified via the Calculated Total Percentage
ISH	shareholder at first level who is the immediate shareholder
HQ	when the subsidiary is a branch or a foreign company, its single shareholder is it's headquarter.
DUO 25	Domestic ultimate owner with a definition min 25%
GUO 25	Global ultimate owner with a definition min 25%
DUO 50	Domestic ultimate owner with a definition min 50%
GUO 50	Global ultimate owner with a definition min 50%
DUO 50C	Domestic ultimate owner with a definition min 50%, GUO only with type B, C, A and F
GUO 50C	Global ultimate owner with a definition min 50%, GUO only with type B, C, A and F
GUO 25C	Global ultimate owner with a definition min 25%, GUO only with type B, C, A and F

3.7.1 Ultimate owners – Domestic or Global

To define an Ultimate Owner, Bureau van Dijk analyses the shareholding structure of a company having a [BvD Independence Indicator](#) different from A+, A or A- (which means that the company is independent and consequently, has no Ultimate Owner).

It looks for the shareholder with the highest [direct or total % of ownership](#).

If this shareholder is independent, it is defined as the Ultimate Owner of the subject company and a UO link is created between the subject company and the Ultimate Owner. [See [characteristics of a UO link](#)].

If the highest shareholder is not independent, the same process is repeated to him until Bureau van Dijk finds an Ultimate Owner.

This is the general process that is always applied. However Bureau van Dijk gives you the possibility to [provide parameters for some characteristics of the Ultimate Owner](#) (minimum % of ownership in the path between the subject company and its UO and shareholding structure of the UO) and [distinguishes the Global UO from the Domestic UO](#).

Notes:

- To be independent, the shareholder must be independent by itself (i.e. an entity having one of the following type: *individuals and families*, *Public authorities/State*, *Employees/Managers/Directors*) or must be an entity with an independence indicator A+, A or A- (no shareholder with more than 25%).
You have the possibility to consider also as independent the entities that have an Independence Indicator B (no shareholder with more than 50% but one between 25.01 and 50%) or U (no shareholders at all or all shareholders with unknown percentage). See above.
- The categories of shareholders collectively labelled by the sources are disregarded (since they are considered as unable to exert a controlling power over a company). They include:
 - Public (used only for quoted companies)
 - Unnamed private shareholders, aggregated (more than one unnamed individual or family, labelled such as "Private shareholders", "Individual investors", "Other individuals", etc.)
 - Other unnamed shareholders, aggregated (more than one unnamed shareholder containing a mixture of companies or of companies and individuals or families).

3.7.2 Choose your definition of the Ultimate Owner

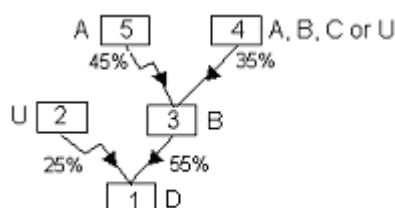
Bureau van Dijk offers different definitions of an [Ultimate Owner](#). The parameters of the definition concern the minimum percentage that must characterize the path from a subject company up to its Ultimate Owner (minimum 25.01% or 50.01%) and the type of shareholders (individuals can be or not a Global ultimate owner).

3.7.2.1 Minimum percentage that must characterise the path from a subject company up to its Ultimate Owner

Bureau van Dijk gives you the possibility to choose between a minimum of 25.01% or 50.01% at each step of the UO selection path.

A minimum of 50.01% in the path means that companies with [Independence Indicator](#) B (B+, B or B-) are considered as Independent companies.

Depending on the minimum % selected, the selected UO could be the same (if at each step you have more than 50% of ownership) or different as in the following example:



The ownership path of minimum 50.01% is followed from Company 1 to Company 3. Company 3 has no shareholders with more than 50.01% of ownership. Consequently, it is defined as the Ultimate Owner of Company 1.

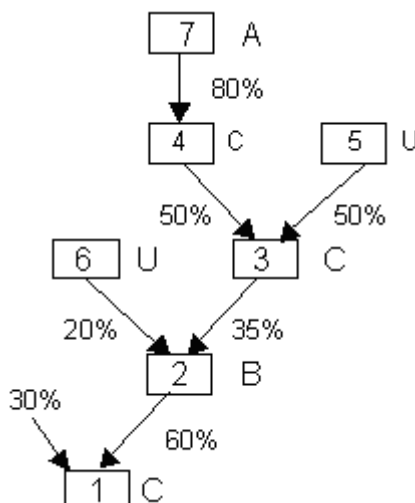
The ownership path of minimum 25.01% is followed from Company 1 to Company 3 and from Company 3 to Company 5. Company 5 is independent and said to be the UO of Company 1. Company 5 is also the UO of Company 3.

Entities with an Independence indicator U can be the UO of one of their subsidiaries.

3.7.3 Ultimate Owner Identification: Special Cases

3.7.3.1 Jointly owned companies

When a company (Company 3 in the following scheme) is reported as *jointly owned* by two parents (Company 4 and Company 5), 50% is noted for the ownership percentage of Company 4 and Company 5 in Company 3.



With a definition asking for a path up to the UO of minimum 50.01%, the UO of Company 1 is Company 2 and the UO of Company 4 is Company 7. Other companies have no UO.

If the minimum percentage required in the path up to the UO is 25.01%, Companies 1, 2 and 3 will be jointly owned by Company 4 and Company 5. Company 4 has Company 7 as UO and the UO of Company 5 is unknown.

3.7.3.2 Several shareholders with the same “highest” %

How to choose the shareholder that will be kept in the path to define the UO when several shareholders have the same highest percentage?

1. If 2 shareholders have the same total %: the shareholder that has no direct % or the highest direct % is chosen
2. If one of two shareholders has direct % that are the same as the total % of the other, the shareholder with the highest total % is chosen
3. If 2 shareholders have the same direct and total %, no UO can be defined.

3.7.3.3 UO link provided by a source

If a company is indicated by a source (*Annual Report, Private Communication, Information Provider*) to be the UO of another company, this path is only taken into account if there is no other information available for the shareholders of the company.

3.7.4 Characteristics of an Ultimate Owner link calculated by Bureau van Dijk

3.7.4.1 Percentages

UO links calculated by Bureau van Dijk are never completed by a percentage except:

- if the UO is also a shareholder with a direct link. In such cases the UO link keeps the same direct and/or total percentage as in the direct link.
- if the path between a company and its UO is only composed of links with 100% in direct and total. In this case Bureau van Dijk puts 100% as total percentage in the UO link.

3.7.4.2 Source of the information

The source is always “VD” for BvD.

3.7.4.3 Date of the information

The validity date is the date of the most recent link kept in the path between the subject company and its UO.

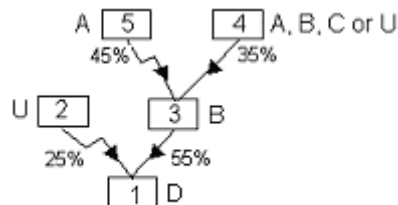
In the historical files, as 4 definitions are proposed, the field 'type of relation' will indicate with which definition the entity is the GUO (GUO 25, GUO 50, GUO 50C and/or GUO 25C).

3.7.5 Global and Domestic Ultimate Owners

The **Domestic UO** is the highest company in the path between a subject company and its Global UO that is located in the same country as the subject company. The path between the subject company and its Domestic UO may pass through one or more entities that are not located in the same country as the subject company.

The Domestic UO will be identified by following the same path as the one up to the Global UO. This path is determined by the minimum percentage that must characterise the path from a subject company up to its Ultimate Owner.. In the historical files, as 4 definitions are proposed, the field 'type of relation' will indicate with which definition the entity is the DUO (DUO 25, DUO 50, GUO 50C and/or GUO 25C).

Example

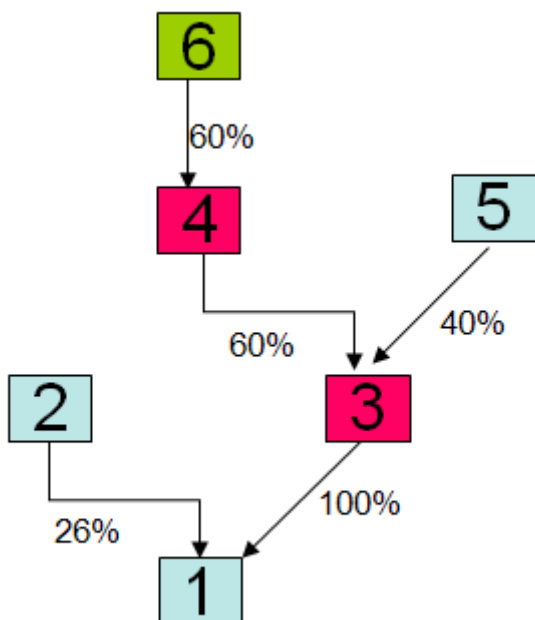


In this example let us say that company 1 and company 3 are located in the same country, whereas company 5 is located in different location. When considering a minimum path of 25.01%, we can say that company 5 is the Global Ultimate Owner of company 1. However since they are not located in the same country, it cannot be the Domestic Ultimate Owner. To determine it, we need to look at the company one level below company 5 and determine if it is located in the same country as company 1. If it is not, then we need to look at the company one level below that one and so on. In this example company 3 is located in the same country as company 1 and is said to be the Domestic Ultimate Owner of company 1.

3.7.6 Immediate Shareholders

The **Immediate shareholder** corresponds to the first shareholder in the path from the subject company to its Ultimate Owner (according to the definition of the UO used).

Example



- 1 is the subject company
- 6 is the GUO
- 3 is the immediate Shareholder

In the historical files, the immediate shareholder is indicated with a 'type of relation' ISH

3.7.7 Headquarter

In the case of branch or a foreign company, their shareholder is commonly labelled Headquarter and is indicated with separate type of relation: HQ

3.7.7.1 Branches and Foreign Companies

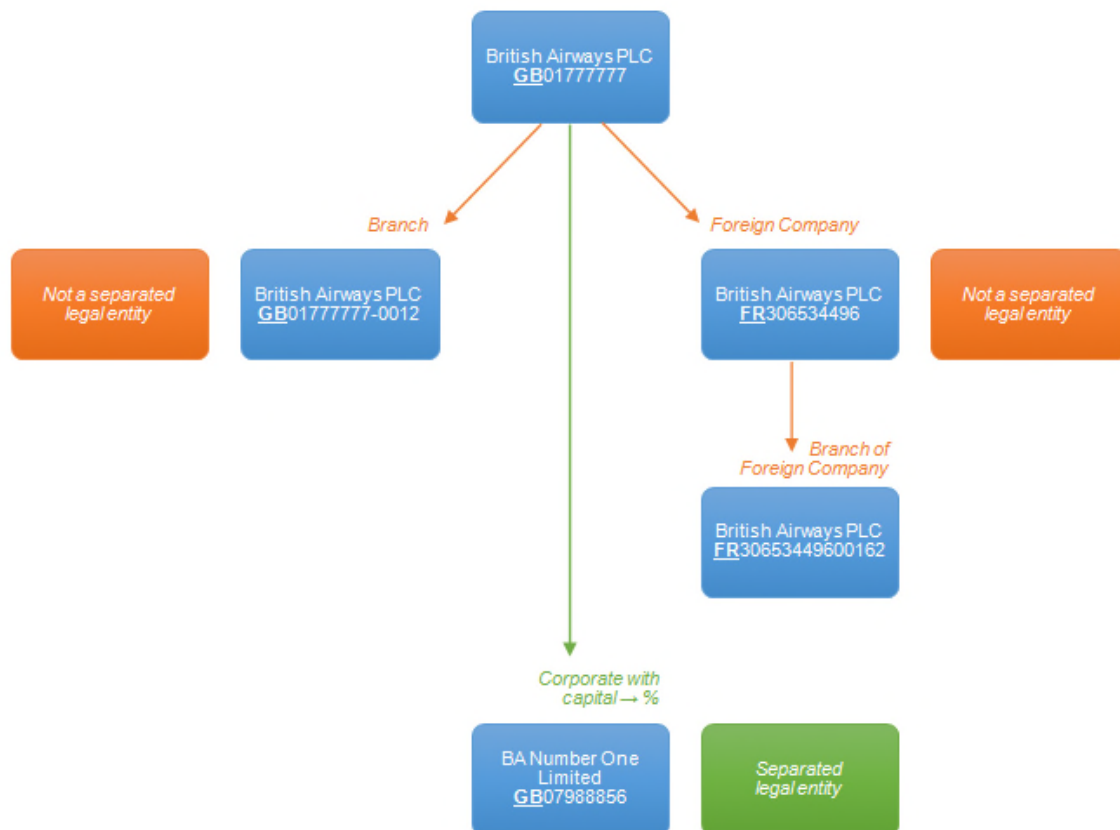
Under the terms branch / foreign company Bureau van Dijk includes company secondary location, directly reporting to their headquarters. Nevertheless contrarily to a subsidiary, it is not a separated legal entity of the parent corporation. Hence it must be considered as an extension of a company.

When this extension is located in the same country as the parent, we consider it to be a BRANCH.

Conversely, when this extension is located in another country, we consider it to be a FOREIGN COMPANY.

Accordingly, operating a foreign company is actually just having the domestic parent corporation operating abroad (a given parent entity might have several foreign companies in different countries). Nonetheless the foreign company has to be registered in the foreign country and will thus be attributed a national number.

Moreover, a foreign company might itself have branch(es).



In the applications, branches and foreign companies are treated the same way.

Foreign companies are grouped with branches in the ownership 'branches' search and in the list/report 'branches' section; both branches and foreign companies are also attributed with an independence indicator 'D'.

The said entities are linked to their headquarters when a link is available and their UO can be displayed as well as a corporate group.

Note: In case the foreign company would itself have branch(es), it would be selected both as a 'branch' and 'headquarters'.

Part II: Some explanations on the evolution from year to year

1 Explanations of the major changes between the datasets Q2 2020 and Q4 2020

There are some significant changes in the data dataset between Q2 2020 and Q4 2020. Main countries impacted, and reasons are:

<i>historical DB</i>	<i>Country</i>	<i>nb of links in 2020_Q2</i>	<i>nb of links in 2020_Q4</i>	
2007	PL	98,162	318,600	Addition of new links (sole traders)
2008	PL	129,491	375,199	
2009	PL	187,679	467,236	
2010	PL	246,164	588,489	
2011	PL	806,502	948,676	
2012	PL	941,914	1,039,300	
2013	PL	947,781	1,080,005	
2014	PL	721,963	861,833	
2015	PL	808,761	947,633	
2016	PL	910,719	1,047,060	
2017	PL	672,186	1,098,987	
2018	PL	708,892	1,169,682	
2019	PL	826,732	1,322,009	
2007	KR	109,146	514,287	
2008	KR	96,938	529,570	
2009	KR	84,765	545,027	
2010	KR	90,492	556,828	
2011	KR	119,448	13,418	
2012	KR	142,481	621,286	
2013	KR	169,057	634,716	
2014	KR	224,294	714,295	
2015	KR	403,165	1,028,304	
2016	KR	442,444	1,369,901	
2017	KR	421,424	1,342,646	
2018	KR	426,554	1,347,303	

BvD historical ownership databases

<i>historical DB</i>	<i>Country</i>	<i>nb of links in 2020_Q2</i>	<i>nb of links in 2020_Q4</i>	
2019	KR	441,147	1,360,903	
2019	MY	581,718	876,823	<i>increase of links by IP</i>

2 Explanations of the major changes between years within dataset Q4 2020

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
AE	3,383	4,156	4,457	5,914	6,979	15,245 !1	19,755	363,558 !2	99,382 !1	437,876 !2	439,004	437,548	438,973
AL	171	218	18,169 !1	35,416	35,517	36,317	33,021	29,360 !1	43,708 !2	42,521	55,345	58,611	57,451
AM	100	104	147	146	155	163	163	185	207	222	248	254	264,143
AR	82,195	87,487	92,594	98,785	106,113	118,662	141,162 !2	162,804	190,818	213,485	235,509	292,718	178,977
AT	316,193	428,045 !2	545,356 !2	555,910	572,680	577,994	684,448	710,942	783,028	885,193	903,832	840,870	958,396
AU	663,385	853,386	1,081,783 !1	1,853,286	2,993,914	4,430,371 !1	5,203,412	5,576,476	6,228,998	6,602,620	7,694,032	5,933,586 !2	6,786,895
AZ	179	202	236	225	217	246	282	298	363	395	453	826,281 !1	826,283
BA	2,451	2,612	3,013	4,621	20,171 !2	24,144	28,076	30,735	31,105	31,027	32,810	33,918	33,807
BE	58,716	62,114	64,596	66,711	69,449	471,489 !2!3	520,703	736,830	1,077,714	929,049	962,722	965,014	959,860
BG	311,234	310,960	502,038 !2	498,134	495,333	490,996	692,317 !2	1,269,123 !2	1,363,078	1,417,301	1,511,588	1,564,477	1,596,478
BH	1,225	1,317	1,423	1,678	83,118 !1	84,510	85,717	54,437 !1	53,510	53,746	200,785 !2	200,452	222,597
BR	11,138	12,667	15,195	18,718	20,479	23,949 !2!3	31,998	35,323	10,005,004 !1	11,511,630	10,974,248	11,571,220	10,860,801
BY	4,567	7,479	9,340 !2	10,293	11,130	11,813	13,217 !1	13,701	14,019	14,277	14,518	14,556	257,988
CA	99,805	108,276	109,377	89,717 !1	62,768	82,430 !2	97,922	109,408	137,526 !1	158,331	319,541 !2	308,282	339,157
CH	322,673	354,512	394,372 !2	447,324	505,201	538,847	550,858	578,737	586,276	596,952	613,568	626,874	637,579
CL	3,944	4,503	5,079	5,834	7,481	10,067	30,559	61,092 !1	655,248	1,020,463	1,235,508	2,516,308 !2	2,717,804
CM	245	266	290	294	311	291	329	350 !1	386	410	459	465 !2	490
CN	65,896	57,726	67,582	136,483 !1	263,722 !2	316,967	347,828	354,363	466,848	17,684,797 !2	19,536,302	44,542,738 !2	68,530,854
CO	207,656	228,558	327,080 !1	331,140	347,773 !2	355,468	356,573	360,464	363,220	381,271 !2	402,444	450,215 !2	586,126
CR	470	548	636 !1	700 !1	774	826	1,548	3,198 !1	5,193	6,717	7,475	7,573	7,499
CU	81	87	91	133	133	126	149	165 !1	170	217	273	313	1,183
CY	4,935	17,701 !1	29,692	26,317	21,946	30,168 !2	40,693 !2	54,271 !2	63,611	74,462	75,298	81,655	91,876
CZ	16,895	126,544 !1	169,358	247,771 !2	464,609 !2	450,525 !2	537,798 !2	946,468 !2	1,002,324	1,031,930	1,036,383	1,049,683	1,049,919
DE	2,362,812	2,591,716 !1	2,647,171	2,771,915 !2	2,867,888 !2	2,931,454	3,123,465 !2	4,074,365 !2	5,320,398	5,449,330	5,234,195	5,205,948	5,262,390
DJ	14	21	25	28	35	35	37	40 !2	56	66	79	86	106

BvD historical ownership databases

	2007	2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019
DK	488,608	525,916		558,393		578,480		608,851		641,355		732,770	I2	824,289		882,849		943,995		1,054,957		1,089,970		1,194,517
DM	15	16		17		13		10		10		16	I2	27		33		36		37		42		42
DO	383	464		538		580		638		648		766		805		910		1,058		1,131		1,258		1,275
DZ	494	600		713		883		1,000		1,006		1,123		1,197		1,357		1,445		1,488		1,533		1,817,057
EC	420	435		520		569		613		1,023		1,786		5,223	I5	7,309	I5	30,711	I5	30,964		31,192		28,882
EE	18,164	128,942	I1	143,432		152,429		159,085		166,705		192,199		196,455	I5	206,801	I5	231,188	I5	249,520		279,874		283,376
EG	2,941	3,292	I1	3,844		4,435		5,644		9,168	I1	15,202		18,385		19,634		21,432		135,994	I2	136,048		258,301
ER	6	6		12		13		9		12	I1	13		19		22		26		29	I2	30		30
ES	662,635	1,038,861	I2	998,220		1,438,508	I2	1,646,465		1,412,212		1,552,606		1,509,113		1,522,018		1,481,639		1,230,473	I2	1,655,641	I2	1,738,673
ET	53	48	I2	55		65	I2	94		106		118		146		347		464		591	I2	675	I2	696
FI	74,160	102,966	I4	143,358	I4	181,612		201,698		226,683		234,162		281,669		304,571		346,258		382,804		407,493		429,855
FJ	86	108	I4	147	I4	147		162		234		279		385		456		498		512		495		497
FR	822,984	839,855		912,030		2,102,923	I4	2,143,962		1,932,892		1,922,066		1,865,096		2,004,880		2,083,881		1,960,803		1,833,289		1,972,079
GA	186	195		204		185	I4	217		238		272		296		390		447		506		527		570
GE	198	255		282		322		346		325		920		980		1,726		428,852	I2	428,978		498,839		511,254
GH	395	447		592		561		694		867		1,197		1,397		1,694		130,340	I1	129,320		129,354		129,331
GI	347	413		485		511		515		625		717		767		916		912	I1	925		1,017		983
GR	135,934	138,218		123,093		151,717		64,371	I1	59,868		74,887	I2	72,914		65,785		68,913		63,638		67,197		44,788
GT	356	413		450		464		473	I1	501		567	I2	693		896		955		982		1,222		1,255
GY	35	36		43		42		43		67		74		80		100		106		119		135		141
HK	19,283	24,650		27,239		25,314		24,226		28,168		30,087		47,405	I1	59,918		80,033	I2	117,475		189,862	I2	276,136
HN	159	175		190		248		247		282		356		409	I1	466		514	I2	569		693	I2	718
HR	21,694	23,339		27,256		30,299		32,771		110,244	I2	115,616		139,190		153,976		279,756	I2	286,442		287,079		284,381
HT	28	26		20		24		28		39	I2	49		54		68		74	I2	78		70		75
IL	1,454	1,460		1,462		1,431		1,331		1,354		1,242		1,242		1,072		1,215		1,284		1,430		1,861
IL	4,761	5,575		7,429		8,900		8,167		106,870	I1	155,781		242,173		204,656		194,139		195,847		172,408		257,364
IN	22,150	30,060		37,854		43,344		49,064		47,969	I1	60,256		90,094	I2	130,244		176,985		201,331		354,177	I2	377,455

	2007	2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019
IQ	98	128		102		208		368		647		1,197		1,805	I2	1,882		2,144		2,333		13,575	I2	10,561
IR	230	302		422		537		844		1,378		1,936		2,053		2,817		3,679		6,305		9,740	I2	10,144
IS	13,439	14,387		34,977	I2	32,904		33,952		35,254		39,735		38,971		42,276		46,372		49,401		51,185		53,254
IT	201,651	234,817		2,412,195	I2	2,600,100		2,794,942		2,864,923		2,883,452		2,963,975		2,992,964		3,238,475		8,730,854	I2	8,836,884		9,806,596
JM	271	311		336	I2	425		419		505		657		809		988		300,277	I1	304,550	I2	316,608		329,507
JO	1,383	1,500		3,543		3,184		3,685		159,691	I2	161,012		144,381		143,008		143,909	I1	495,415	I2	619,797		619,793
JP	52,884	54,609	I1	57,310		58,247		60,891		74,559	I2	75,037		96,231		123,558	I1	312,718	I2	332,318	I2	358,682		361,685
KE	541	714	I1	950		1,010		1,093		1,396		1,895		2,135		2,624	I1	50,652	I2	425,332	I2	701,155		693,313
KG	54	59		92		102		140		212		289		361		399		434	I2	468	I2	452		323,963
KR	514,287	529,570		545,027		556,828		594,030	I2	621,286		634,716		714,295		1,028,304		1,369,901		1,342,646		1,347,303		1,360,903
KV	34	71		129		146		151	I2	121		26,346	I1	26,271		29,092		28,615		140,175	I2	162,704		229,078
KW	1,603	1,966		2,558		2,621		2,727		41,353	I2	43,789	I1	43,469		44,096		44,341		44,775	I2	17,740		43,220
KY	11,950	12,705		15,010		18,154		19,218		21,081	I2	23,783		27,619		31,660		33,611		36,924		39,750		39,076
KZ	622	648		874		1,159		7,487		7,204		38,134	I1	34,459		36,454		37,736		36,776		35,472		34,124
LA	46	60		79		86		96		120		159	I1	198		243		267		297		341		351
LB	2,338	1,842		2,254		3,171		91,529	I1	131,098		183,939	I2	179,016		179,415		180,163		98,546		183,185	I2	88,497
LC	50	65		72		103		101	I1	115		135	I2	145		215		224		233		253	I2	262
LS	2,867	3,424		3,960		4,785		5,595		8,796		13,711	I2	18,411		24,405		29,596		34,750		42,547		48,327
LU	33,535	38,856		46,517		47,394		51,910		59,481		74,049	I2	91,897		103,776		114,136		126,092		123,695		129,121
LV	146,171	166,990		188,949		214,587		243,474		255,104		267,113	I2	275,742		277,101		273,967		270,416		253,014		232,812
MA	630,704	651,533		672,053		690,317		876,997	I1	1,031,365		966,553	I1	994,207	I1	1,016,881		1,040,858		1,062,071		1,101,760		1,148,093
MC	252	280		305		413		478	I1	424		595	I1	625	I1	879		1,296		1,373		1,431		1,637
MD	218	380		506		526		652		721		4,130	I1	3,980		170,156	I2	156,897		159,133		158,175		149,660
ME	3,087	3,014		3,092		3,246		3,865		5,467	I2	7,255	I1	7,466		7,887	I2	43,485	I2	46,547		46,605		46,966
MG	128	140		170		171		205		247	I2	284		332		459		465	I2	535		555		570
MK	2,608	13,943	I1	14,295		14,368		14,348		14,282		154,344	I2	101,779	I1	101,717		317,508	I2	312,299		321,658		320,601
ML	95	106	I1	164		144		173		204		226	I2	231	I1	316		363	I2	415		451		494

BvD historical ownership databases

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019						
MT	511	689	800	949	9,664	I2	18,757	16,963	16,706	15,337	22,462	I2	119,506	I2	122,949	126,373			
MU	1,027	1,302	1,854	1,983	2,232	I2	2,979	3,663	4,850	6,271	7,439	I2	8,349	I2	7,897	50,744			
MX	8,645	9,681	10,919	11,671	12,626	13,941	I2	16,094	17,828	60,404	I1	71,800	62,898	65,798	63,019				
MY	549,797	597,610	645,020	692,508	743,839	784,515	I2	809,369	799,941	840,393	I1	1,021,351	I2	970,736	1,005,624	876,823			
MZ	241	271	364	429	437	545	677	1,218	1,582	1,806	I2	1,971	2,053	2,078					
NG	932	1,045	1,235	1,454	1,511	1,769	2,320	2,742	13,776	I1	156,163	I2	600,023	I2	642,411	495,633			
NI	120	152	161	179	194	224	263	283	353	I1	375	I2	375	I2	406	425			
NL	289,581	391,688	I2	414,688	423,921	448,150	452,928	482,012	463,208	494,640	I1	512,760	528,252	535,016	551,434				
NO	330,990	360,363	I2	336,155	337,322	320,031	858,381	I2	933,350	1,084,145	1,131,601	I1	1,137,071	1,164,034	1,151,658	1,713,009			
NP	268	361	572	524	542	523	I2	714	673	797	794	786	843	980					
NZ	980,684	1,101,676	1,216,196	1,297,501	1,381,917	1,487,784	1,596,366	1,675,165	I2	1,725,343	1,752,740	1,798,498	1,839,091	1,613,541					
OM	939	959	1,083	1,071	279,044	I2	279,603	280,488	280,364	I2	280,613	281,082	4,851	5,536	282,098				
PA	1,311	1,514	1,720	2,003	2,095	I2	2,308	2,823	3,397	4,187	5,101	1,342,162	I1	1,361,216	1,377,910				
PE	7,593	7,018	6,584	12,865	I1	14,359	15,506	15,859	14,238	17,803	17,363	18,053	I1	17,754	17,861				
PG	103,191	109,849	118,991	129,535	I1	142,024	151,334	161,535	171,628	182,700	188,550	188,590	188,616	188,479					
PH	3,891	4,153	5,273	5,270	5,989	7,984	10,597	20,570	I2	54,560	I2	129,123	131,945	137,250	135,213				
PK	1,878	2,382	3,010	3,391	3,518	3,733	5,948	6,370	I2	9,181	I2	11,861	12,827	14,771	16,728				
PL	318,600	375,199	I2	467,236	I2	588,489	I2	1,039,300	1,080,005	861,833	947,633	1,047,060	1,098,987	1,169,682	1,322,009				
PS	207	187	I2	340	I2	347	I2	440	851	987	1,128	1,270	1,374	1,461	1,471				
PT	244,704	555,109	I2	540,915	601,541	577,168	666,211	721,261	895,371	I2	875,719	887,584	997,090	1,016,485	1,053,892				
PW	1	2	I2	3	3	5	4	3	3	I2	3	5	9	9	10				
PY	117	124	133	165	191	265	369	458	838	87,370	I1	90,126	95,650	87,968					
QA	539	716	783	960	1,163	2,028	27,649	I2	26,110	26,720	27,441	I1	27,623	28,096	6,980				
RO	866,395	851,871	1,057,405	I2	1,326,493	1,670,739	1,813,106	2,013,541	I2	2,031,979	2,061,294	2,018,997	2,080,284	2,138,175	2,197,090				
RS	10,601	44,439	I2	132,699	I2	132,256	192,305	I2	169,152	257,695	I2	429,888	499,081	556,604	556,903	555,777			
RU	2,778,418	3,151,319	I2	4,934,771	I2	4,524,447	5,961,051	I2	8,080,391	I2	8,248,661	6,983,364	I2	11,958,311	I2	12,590,889	11,840,911	11,059,067	10,479,609
RW	65	80	90	I2	62	62	73	I2	104	155	214	I2	256	312	396	427			

	2007	2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019
SA	3,688	4,319		4,819		6,746	I2	8,529		14,070	I2	20,092		25,837		26,875		39,238	I2	48,270		55,844		104,464
SB	19	14		21		23	I2	23		26	I2	31		37		46		45	I2	45		47		45
SE	74,615	77,455		81,876		161,060	I3	184,327		195,999		201,593		208,421		225,833		236,576	I1	237,505		252,407		259,638
SG	55,601	62,812		74,942		84,156	I3	95,203		109,770		128,250		152,954		187,468		449,774	I2	519,236		612,571		669,246
SI	5,335	10,441	I1	22,823	I2	26,265		29,325		32,642		35,314		38,615		40,140		74,072	I2	202,110		208,116		211,320
SK	17,347	20,312	I1	135,769	I1	143,566		143,512		141,139		354,952	I2	447,052		456,173		458,289	I2	460,458		455,417		493,833
SL	38	47		44	I1	46		69		93		111	I2	126		168		192		213		234		248
SY	152	178		215		379		432		661		847		785		821		845		865		771		8,428
TH	561,047	615,287		673,451		721,574		781,801		855,857	I1	959,867		1,074,922	I2	1,122,089		1,061,865		1,525,499	I2	1,595,391		1,389,397
TJ	53	40		53		17		23		39	I1	40		48	I2	54		54		51	I2	516,589	I1	563,483
TL	1	1		1		3		5		7		11		24		37		54		61		64	I1	62
TR	29,230	38,092		63,908	I1	78,151		162,723	I2	420,803		517,525		417,163	I2	416,402		392,940		353,922		350,334		364,429
TT	181	210		269	I1	291		371	I2	453		479		484	I2	533		616		637		647		598
TW	64,151	71,327		76,630		79,076		72,948		67,361		48,267	I1	59,261	I2	63,471		53,634		53,765		57,543		1,145,634
TZ	237	289		386		415		469		623		766	I1	926	I2	1,249		1,437		1,686		1,836		1,946
UA	113,506	111,006		134,506	I2	134,452		168,312	I2	1,229,493	I2	1,943,445	I2	1,840,716	I1	1,880,777		1,875,066		3,881,359	I2	3,713,953		3,763,355
UG	142	176		206	I2	211		229	I2	310	I2	428	I2	485	I1	626		686		729	I2	756		759
US	2,669,257	1,559,849		1,691,215		1,575,208		1,444,453		3,287,771	I1	4,116,458		4,923,652		8,712,251		9,867,076		10,719,395		10,308,422		13,121,396
UY	645	765		841		1,008		1,010		1,399	I1	2,118		2,647		4,131		9,997	I5	16,007		18,563		18,372
UZ	140	148		206		198		246		306		348		374		436		555	I5	138,599	I2	138,276		138,293
VA	0	0		0		0		0		0		0		6		6		6		6	I2	6		6
VE	1,298	1,433		1,439		1,597		1,659		3,321		6,692	I2	12,571		30,944		37,323		117,265	I5	115,863		113,165
VG	6,735	7,876		9,833		10,440		10,656		14,450		15,674	I2	18,906		21,707		24,103		27,075	I5	28,650		29,286
VN	7,027	8,863		11,040	I2	13,652		16,320		25,604	I1	32,519		36,642		41,113		700,810	I2	881,311		1,148,971		1,317,440
VU	41	38		91	I2	87		87		93	I1	99		100		112		118	I2	110		117		114
YE	114	133		116		129		131		219		285		355		393		428		461		43,053	I2	42,972
YY	129,549	138,117		145,665		137,686		135,674		135,062		135,263		143,413		152,642		264,976		268,148		331,852	I2	232,756

BvD historical ownership databases

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
ZA	38,118	42,620	48,571	51,281	53,581	56,684	61,995	67,203	88,949	98,256	103,809	107,077	109,559
ZM	176	213	280	320	349	437	590	682	1,128	1,367	1,634	1,936	2,956

- !1 BvD started receiving ownership information from a new information provider
- !2 BvD increased its company coverage, or received a bigger set of data from an information provider
- !3 BvD increased its branch coverage
- !4 BvD or the IP has reviewed the validity date of the data
- !5 BvD Internal research
- !1 no ownership update for more than 3 years. BvD has not reactivated previous years of ownership links
- !2 IP reviewed the validity of its data

3 Breakdown

3.1 Links files

	nb of lines	nb of subsidiaries
2007	143,528,880	22,842,187
2008	146,439,088	24,106,870
2009	173,175,520	29,330,565
2010	208,812,336	33,500,621
2011	253,575,824	39,720,064
2012	336,993,952	49,774,400
2013	388,766,304	56,496,618
2014	428,930,176	61,064,887
2015	558,832,320	83,102,989
2016	683,264,128	104,382,337
2017	803,996,992	121,959,840
2018	1,001,600,704	150,194,204
2019	1,190,151,168	176,580,212

	No of lines with SHH as Type of relation	with an available % (direct or total)	without any %
2007	22,533,315	18,623,020	3,910,295
2008	24,836,716	20,543,483	4,293,233
2009	30,547,915	24,951,100	5,596,815
2010	32,264,445	26,357,224	5,907,221
2011	37,046,419	30,871,363	6,175,056
2012	44,585,789	35,560,800	9,024,989
2013	49,295,825	39,457,626	9,838,199
2014	51,029,475	40,914,639	10,114,836
2015	70,294,199	46,977,737	23,316,462
2016	95,214,659	61,035,684	34,178,975
2017	109,571,855	73,117,497	36,454,358
2018	140,350,766	101,502,678	38,848,088
2019	170,063,090	105,935,895	64,127,195

	No of lines with HQ as Type of relation
2007	1,722,795
2008	1,287,315
2009	1,579,541
2010	3,528,619
2011	4,507,756
2012	6,565,355
2013	7,744,710
2014	9,787,233
2015	14,179,867
2016	15,410,809
2017	17,029,195

	No of lines with HQ as Type of relation
2018	16,262,673
2019	19,882,539
	119,488,407

3.2 Number of subsidiaries having a GUO

	GUO 50	GUO 50 C	GUO 25
2007	14,461,098	10,258,731	19,649,882
2008	14,659,376	9,862,672	20,641,899
2009	17,111,555	11,507,301	24,338,382
2010	21,048,629	14,657,637	28,926,958
2011	26,006,419	17,871,760	35,745,038
2012	35,243,457	24,714,285	47,317,888
2013	41,212,882	28,830,809	54,495,697
2014	45,636,409	32,667,986	59,166,971
2015	58,887,311	43,377,649	73,611,623
2016	71,761,064	51,272,286	89,981,935
2017	85,825,974	59,871,583	106,807,194
2018	108,603,285	72,002,867	136,046,068
2019	131,036,551	86,191,521	157,036,830

3.3 Breakdown by Entity Type

Entity type	Number
One or more known individuals or families	215,053,188
Industrial companies	156,879,074
Branches	36,366,275

Entity type	Number
Financial companies	2,980,032
Mutual & Pension Fund/Nominee/Trust/Trustee	1,793,529
Unnamed private shareholders, aggregated	640,725
Public authorities, States, Governments	411,662
Foundations/Research Institutes	395,295
Insurance companies	241,776
Vessels	184,315
Other unnamed shareholders, aggregated	97,009
Banks	87,598
Employees/Managers/Directors	37,396
Venture capital	15,342
Private equity firms	10,980
Hedge fund	474
Public	2

Part III: how to retrieve data and some basic sql queries

4 Overview

This section provides information on how to use the files and retrieve the data.

We use Google Inc (BvD ID US134090555L) and links2015.txt file as an example

5 How to search for first level shareholders

To select a company's shareholders, you have to find the lines where the BvD ID of your company is in the column "Subsidiary BvD ID" and the column "Type of relation" is equal to SHH or HQ

We insist on the importance of the field [Type of relation] in the linksyyyy.txt file in any query you create.

This field will determine which level of shareholding you will select. Please see [Type of relation](#) in section II of this document for the different type of relation.

Example of a sql query:

```
select *
from [Links_2015]
where
    [Subsidiary BvD ID] = 'US134090555L'
    and [Type of relation] in ('SHH', 'HQ')
```

	Subsidiary BvD ID	Sub...	Shareholder BvD ID	Sh...	Direct %	Direct ...	Total %	Total ...	Information date	Source	Type of relation	Active/...	GUO 25	GUO 50	GUO 50c	GUO 25c
1	US134090555L		US611767919	B+	100.00	100.00	100.00	100.00	20151231	WV	SHH	active	WW*954056063	US611767919	US611767919	US611767919

6 How to search for first level subsidiaries

To select subsidiaries and branches of a specific company, you have to find the lines where the BvD ID of your company is in the column "Shareholder BvD ID" and the column "Type of relation" is equal to SHH or HQ

We insist on the importance of the field [Type of relation] in the linksyyyy.txt file in any query you create.

This field will determine which level of shareholding you will select. Please see [Type of relation](#) in section II of this document for the different type of relation.

6.1 Example of sql query

```
select *
from [Links_2015]
where
    [Shareholder BvD ID] = 'US134090555L'
    and [Type of relation] in ('SHH', 'HQ')
```

Subsidiary BvD ID	Subsidiary In...	Shareholder BvD ID	Shareholder Indepen...	Direct %	Direct % (only figures)	Total %	Total % (only figures)	Information date	Source	Type of relation	Active/archived	GUO 25
US150196124L	D	US134090555L	D	BR	100.00	-	NULL	20141013	CU	HQ	active	WW*954056
US187928151L	D	US134090555L	D	BR	100.00	-	NULL	20151031	CU	HQ	active	WW*954056
US200048145L	D	US134090555L	D	BR	100.00	-	NULL	20150827	CU	HQ	active	WW*954056
US189877647L	D	US134090555L	D	BR	100.00	-	NULL	20150827	CU	HQ	active	WW*954056
US271054196L	D	US134090555L	D	BR	100.00	-	NULL	20151031	CU	HQ	active	WW*954056
US1500339584L	D	US134090555L	D	BR	100.00	-	NULL	20150903	CU	HQ	active	WW*954056
US1500339585L	D	US134090555L	D	BR	100.00	-	NULL	20151101	CU	HQ	active	WW*954056
US269584949L	D	US134090555L	D	BR	100.00	-	NULL	20151031	CU	HQ	active	WW*954056
US134394878L	D	US134090555L	D	BR	100.00	-	NULL	20151101	CU	HQ	active	WW*954056
US149863682L	D	US134090555L	D	BR	100.00	-	NULL	20150228	CU	HQ	active	WW*954056
US131900929L	D	US134090555L	D	BR	100.00	-	NULL	20141014	CU	HQ	active	WW*954056
US132194199L	D	US134090555L	D	BR	100.00	-	NULL	20151031	CU	HQ	active	WW*954056
US267906818L	D	US134090555L	D	BR	100.00	-	NULL	20151031	CU	HQ	active	WW*954056

7 How to search for a Global Ultimate Owner (GUO) or Domestic Ultimate Owner (DUO)

To find the Global Ultimate Owner (GUO) of a specific company, you have two possibilities:

- Find any rows where the BvD ID of your company is in the column "Subsidiary BvD ID" and select the BvD ID given in the column "GUO 50", "GUO 50c", "GUO 25" or "GUO 25c" according to the definition you want to follow
- Find the row where the BvD ID of your company is in the column "Subsidiary BvD ID" and the column "Type of relation" equals "GUO 50", "GUO 50c", "GUO 25" or "GUO 25c" according to the definition you want to follow. The GUO is then given in the column Shareholder BvD ID.

To find the Domestic Ultimate Owner (DUO) of a specific company, you have one possibility:

- Find the row where the BvD ID of your company is in the column "Subsidiary BvD ID" and the column "Type of relation" equals "DUO 50", "DUO 50c", "DUO 25" or "DUO 25c" according to the definition you want to follow. The DUO is then given in the column Shareholder BvD ID.

7.1 Examples of sql queries

7.1.1 Example 1

```
select *
from [Links_2015]
where
[Subsidiary BvD ID] = 'US134090555L'
```

Subsidiary BvD ID	Subsidiar...	Shareholder BvD ID	Share...	Direct %	Direct % ...	Total %	Total %...	Informatio...	Source	Type of rel...	Active...	GUO 25	GUO 50	GUO 50c	GUO 25c
US134090555L	D	US611767919	B+	100.00	100.00	100.00	100.00	20151231	WW	SHH	active	WW*954056063	US611767919	US611767919	US611767919
US134090555L	D	WW*954056063	-	-	NULL	n.a.	NULL	20151231	VD	GUO 25	active	WW*954056063	US611767919	US611767919	US611767919
US134090555L	D	US611767919	B+	100.00	100.00	100.00	100.00	20151231	WW	DUO 25	active	WW*954056063	US611767919	US611767919	US611767919
US134090555L	D	US611767919	B+	100.00	100.00	100.00	100.00	20151231	VD	GUO 25c	active	WW*954056063	US611767919	US611767919	US611767919
US134090555L	D	US611767919	B+	100.00	100.00	100.00	100.00	20151231	VD	DUO 25c	active	WW*954056063	US611767919	US611767919	US611767919
US134090555L	D	US611767919	B+	100.00	100.00	100.00	100.00	20151231	VD	GUO 50	active	WW*954056063	US611767919	US611767919	US611767919
US134090555L	D	US611767919	B+	100.00	100.00	100.00	100.00	20151231	VD	DUO 50	active	WW*954056063	US611767919	US611767919	US611767919
US134090555L	D	US611767919	B+	100.00	100.00	100.00	100.00	20151231	VD	GUO 50c	active	WW*954056063	US611767919	US611767919	US611767919
US134090555L	D	US611767919	B+	100.00	100.00	100.00	100.00	20151231	VD	DUO 50c	active	WW*954056063	US611767919	US611767919	US611767919
US134090555L	D	US611767919	B+	100.00	100.00	100.00	100.00	20151231	WW	ISH	active	WW*954056063	US611767919	US611767919	US611767919

7.1.2 Example 2

```
select *
from [Links_2015]
where
[Subsidiary BvD ID] = 'US134090555L'
and [Type of relation] = 'GUO 50'
```

	Subsidiary BvD ID	Su...	Shareholder BvD ID	Share...	Direct %	Direct % (...)	Total %	Total % (...)	Information date	Source	Type of relation	Active...	GUO 25	GUO 50	GUO 50c	GUO 25c
1	US134090555L	D	US611767919	B+	100.00	100.00	100.00	100.00	20151231	VD	GUO 50	Active	WW*954056063	US611767919	US611767919	US611767919

8 How to select the Corporate Group of a company

To select all companies included in the corporate group of a specific company you have to identify the Global Ultimate Owner (GUO) of the company.

To do so see the previous sub-section: [How to search for a Global Ultimate Owner \(GUO\) or Domestic Ultimate Owner \(DUO\)](#)

Once you know the GUO BvD ID, you will have to find the lines where the GUO BvD ID is in the column GUO 25, GUO50, GUO 25C or GUO 50C according to the definition you want to follow and the column "type of relation" is equal to ISH.

In each line you will retrieve a company of the corporate group in the column "Subsidiary Bvd ID" and its immediate shareholder in the column "Shareholder Bvd ID". The immediate shareholder is the first shareholder in the path to the Global Ultimate Owner (GUO).

8.1 Example of sql query

```
select [Links_2015].*
from [Links_2015]
inner join
(
  select *
  from [Links_2015]
  where
    [Subsidiary BvD ID] = 'US134090555L'
    and [Type of relation] = 'GUO 50'
) a
on
[Links_2015].[GUO 50] = a.[GUO 50]
where
[Links_2015].[Type of relation] = 'ISH'
```

9 How to retrieve a complete tree for a specific entity

To build the tree from a subject company, the basic way is to proceed in several requests.

If you want the subsidiaries and sub subsidiaries, you select all lines with the BvDID of the subject company in the column [Shareholder BvD ID] and the type of relation SHH (and HQ if you want branches to be included too).

Once you have the first subsidiary, the query has to be redone to check if the BvD ID of the subsidiary may also be found in the field [Shareholder BvD ID] with, again, a relation type SHH/HQ.

And continue until the result of the query is null.

Please note that it is possible to create loop queries. We suggest you contact your IT department for more information.

9.1 Example of sql queries

```
select *
from [Links_2015]
where
```

[Shareholder BvD ID] = 'US134090555L'

and [Type of relation] in ('SHH','HQ')

⇒ Result = 244 subsidiaries and branches. These 244 subsidiaries and branches will be checked as [Shareholder BvD ID] to find their subsidiaries and branches.

```
select *
from [Links_2015]
where
    [Shareholder BvD ID] in
    (
        'US123636596L', 'US187928151L', 'US200048145L', 'US267906818L', 'US
150196124L', 'US271054196L', 'US131900929L', 'US150039585L', 'US150039584
L', 'US134394878L', 'US269584949L', 'US189877647L', 'US266969222L', 'US132
194199L', 'US246580094L', 'US149863682L', 'US164146932L', 'US149753209L',
'US149753210L', 'US149753212L', 'US220024553L', 'US270202193L', 'US229050
686L', 'US229050689L', 'US149978780L', 'US149978779L', 'US263128223L', 'US
169334850L', 'US271493063L', 'US258679637L', 'US243021059L', 'US270185450
L', 'US202101393L', 'US150096531L', 'US271570052L', 'US193490709L', 'US149
409412L', 'US270490073L', 'US265750757L', 'US165103632L', 'US259445669L',
'US201237144L', 'US201237126L', 'US128750549L', 'US150184537L', 'US165427
551L', 'US193386447L', 'US249388724L', 'US258898229L', 'US221356448L', 'US
149808926L', 'US124151832L', 'US231561431L', 'FR432126092', 'US241661849L
', 'US209656473L', 'CO9002142175', 'US230932211L', 'US133870966', 'US13110
4451L', 'US254647688L', 'US149170356L', 'US220898690L', 'US253028084L', 'U
S236740007L', 'US149170357L', 'US149170362L', 'US149170364L', 'US14917035
8L', 'US149170359L', 'US149170365L', 'PT508099978', 'US123324495L', 'US124
093130L', 'US123516001L', 'PL140182840', 'US150238506L', 'MXGME050203KW9',
'NL55546692', 'US*L000000041877', 'IE369511', 'CZ27604977', 'US421709682
', 'US*943050523', 'GB05346120', 'SE5565739017', 'HK0000199908', 'PL2-
59302', 'DE2290294203', 'CHCHE110474423', 'FR443061841', 'RU2-
59303', 'HU13561677', 'NL34198593',
'NL34198589', 'DK28866984', 'SG2-59305', 'CL767141408', 'SG2-
59304', 'DE2151130879', 'IN2-59288', 'IE411520', 'BR2-
59268', 'BE0878065378', 'BM38866R', 'US2-59337', 'CH2-59311', 'US2-
59336', 'GB03977902', 'IN0003290952', 'US2-40714', 'KR2-59296', 'US2-
40716', 'AU102417032', 'CA2-59301', 'IT03660670963', 'US137130075L', 'MX2-
59297', 'BR06990590000123', 'JP278011290', 'AT2-59264', 'DE2-
59282', 'US137753656L', 'ZA200603561107', 'US134710202L', 'JP981093554', '
TR2-59315', 'SE5566566880', 'NL34219350', 'AR33-70958522-
9', 'HK0017714887', 'DE4250286997', 'GB05903713', 'US125920379L', 'CA26143
3142L', 'US2-59320', 'US2-59325', 'US2-59326', 'US2-59328', 'US2-
59322', 'US2-59318', 'US2-59319', 'US2-59329', 'US2-59333', 'US2-
59334', 'US2-59335', 'US2-59338', 'US2-59330', 'US2-59331', 'US2-
59332', 'IL51-452-4284', 'US2-59342', 'US2-59343', 'US2-59344', 'US2-
59339', 'US2-59340', 'US2-
59341', 'IE368047', 'US*190521478628', 'ESB63272603', 'US061390025', 'US58
2588724', 'US*190521518158', 'US*Z00037671', 'US243127799L', 'US*19052154
0857', 'US*190521526740', 'US127892659L', 'US276016994L', 'GB*Z00038714',
'US246627062L',
'US242193431L', 'US*Z00002731', 'US*Z00001431', 'CA*904588466', 'US*19052
1492149', 'US*Z00082602', 'US191007780L', 'US241973963L', 'US259179383L',
'US207426489L', 'US*190521503310', 'GB07386350', 'US184323585L', 'FI22849
566', 'US250292924L', 'US*Z00049157', 'JP1130001025024', 'US*190521537133
', 'US*190521503130', 'US*908346270', 'US256297733L', 'US229378835L', 'US1
```



```

90005390L', 'US126447363L', 'US133076348L', 'US*190521506898', 'CA*190521
467740', 'US*190521505861', 'GB*Z00008193', 'US*Z00064496', 'US256742210L
', 'CA274930517L', 'US*P0046565', 'US242710154L', 'US*190521533901', 'US13
3105590L', 'US*904643185', 'GB07497613', 'US*Z00020570', 'US*190521518352
', 'US*933035084', 'US247250666L', 'IL60-039-
6693', 'FR528441637', 'US129733404L', 'CA*190521468223', 'CA*190521460842
', 'US*Z00074121', 'CA245866685L', 'US*Z00091755', 'IE507502', 'US27278086
8', 'US240536486L', 'IL60-067-
4396', 'US240834125L', 'US*Z00062604', 'US123745949L', 'US*190521550368',
'GBJE98947', 'US249758663L', 'US*908301316', 'US236743598L', 'US275913902
L', 'GB05661131', 'US*Z00004083', 'CN*Z00002878', 'US173726640L', 'US*Z000
05828', 'US232164707L', 'US246772625L', 'US246883847L', 'US*932020189', 'U
S183915177L'
)

and [Type of relation] in ('SHH', 'HQ')

```

⇒ Result = 382 subsidiaries and branches

If you want the shareholders and shareholders of shareholders, the same logic can be applied the other way around: you start from a Subsidiary BvD ID and want to find its shareholders and then the shareholders of the shareholders and go all the way up to the highest shareholders in the tree.

10 How to add the type of an entity to the links details

The entity type is shown in the file entity.txt

Please see [sub-section entity types](#) for more information.

To find the entity type of a “Shareholder BvD ID” in a given Linksy.txt file you have to find the same BvD ID in the column “BvD ID of the subsidiary or shareholder” in entities.txt

10.1 Example of sql query

```

select *
from [Links_2015]
inner join [Entities]
on
    [Links_2015].[Shareholder BvD ID] = [Entities].[BvD ID of the subsidiary or shareholder]
where
    [Subsidiary BvD ID] = 'US134090555L'
and [Type of relation] = 'SHH'

```

Subsidiary BvD ID	S...	Shareholder B...	Sh...	Direct %	Direct...	Total %	Total ...	Informati...	Sou...	Typ...	Activ...	GUO ...	GUO 50	GUO 50c	GUO 25c	BvD ID of the ...	Name	Cou...	Entity type
1	US134090555L	D	US611767919	B+	100.00	100.00	100.00	100.00	20151231	WW	SHH	active	WW...	US611...	US6117...	US611767919	ALPHABET INC.	US	C

11 How to select US companies having at least one individual as shareholders

To select US companies having at least one individual as shareholders, you must set a condition on the column [Subsidiary BvD ID]: all BvD ID must start with "US".

As you are searching for the shareholders, the column "type of relation" must be equal to SHH and, finally, you restrict the selection to the "Shareholder BvD ID" for which column "entity type" is "I" in the entities file.

11.1 Example of sql query

```
select *
from [Links_2015]
inner join [Entities]
on
    [Links_2015].[Shareholder BvD ID] = [Entities].[BvD ID of the subsidiary or shareholder]
where
    [Type of relation] = 'SHH' -- select first level shareholder
    and [Entity type] = 'I' -- select shareholders being individuals
    and [Subsidiary BvD ID] like 'US%' -- select US companies
```