

Links between selected pharmaceutical companies and financial institutions

A research paper prepared for
TestBiotech



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RESEARCH & ADVICE

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Introduction

The aim of this research is to identify financial and personal links between major international banks and leading pharmaceutical companies.

The following companies are included in the analysis:

- Altor Bioscience (USA)
- Bionomics (Australia)
- Intrexon (United States)
- Novartis (Switzerland)
- Pfizer (United States)
- Roche Holding (Hoffmann-La Roche) (Switzerland)

In order to identify which major international financial institutions have invested in these companies, the following information has been gathered:

- loans provided to the selected companies since January 2012;
- bond and share issuances of the selected companies since January 2012;
- investments in shares at the most recent available filing dates.

Next to financial relationships, personal links between representatives of leading banks and the selected pharmaceutical companies are described. Such relationships can for example have the form of a dual board membership.

Chapter 1 Methodology

1.1 Types of financial relationships

Financial institutions can be involved in financing companies in various ways. This includes services related to acquiring equity (share issuances, underwriting of share issuances, shareholdings) or debt (corporate loans, underwriting of bond issuances, bondholdings) and other financial services (selling of assets, export credit guarantees, trust services, etc.). The key financial activities considered in this research can be described as follows.

Loans

The easiest way to obtain debt is to borrow money. In most cases, money is borrowed from commercial banks. Loans can be either short-term or long-term in nature.

- **Short-term loans** (including trade credits, current accounts, leasing agreements, et cetera) have a maturity of less than a year. They are mostly used as working capital for day-to-day operations. Short-term debts are often provided by a single commercial bank, which does not ask for substantial guarantees from the company.
- A **long-term loan** has a maturity of at least one year, but generally of three to ten years. Long-term corporate loans are in particular useful to finance expansion plans, which only generate rewards after some period of time. The proceeds of corporate loans can be used for all activities of the company. Often long-term loans are extended by a *loan syndicate*, which is a group of banks brought together by one or more arranging banks. The loan syndicate will only undersign the loan agreement if the company can provide certain guarantees that interest and repayments on the loan will be fulfilled.

A specific type of loan is a **revolving credit facility**. A revolving credit facility provides a company with an option to take up a loan from a bank (or more often: a banking syndicate) when it has an urgent financing need. Revolving credits are often concluded for a five year period and then renewed. But many companies renegotiate their revolving credit facility every year with the same banking syndicate. Amounts, interest rates, fees and participating banks can change slightly every year. As the financial press often reports these renegotiations for larger companies, this might raise the impression that banks are lending huge sums of money to the same company every year. However, this concerns renegotiations of basically the same facility and a revolving credit facility is hardly ever actually called upon for a loan.

Project finance is a specific long-term loan. The proceeds of this loan can only be used to finance a specific project. Project finance is often extended by a banking syndicate, like corporate loans. Different from corporate loans, the repayment of a project finance loan is dependent upon the revenues that a project is expected to generate once it is up and running. To guarantee the payment of interest and repayments as much as possible, the banks usually demand that the revenues of the project must be used first to pay interest and repayment. Only if the revenues are large enough, the remainder will be paid out as dividend to the owner(s) of the project.

Share issuances

Issuing shares on the stock exchange gives a company the opportunity to increase its equity by attracting a large number of new shareholders or increase the equity from its existing shareholders.

If it is the first time a company offers its shares on the stock exchange, this is called an *Initial Public Offering (IPO)*. If a company's shares are already traded on the stock exchange, this is called a *secondary offering* of additional shares. To arrange an IPO or a secondary offering, a company needs the assistance of one or more (investment) banks, which will promote the shares and find shareholders. The role of investment banks in this process therefore is very important.

Bond issuances

Issuing bonds can best be described as cutting a large loan into small pieces, and selling each piece separately. Bonds are issued on a large scale by governments, but also by corporations. Like shares, bonds are traded on the stock exchange. To issue bonds, a company needs the assistance of one or more (investment) banks which underwrite a certain amount of the bonds. Underwriting is in effect buying with the intention of selling to investors. Still, in case the investment bank fails to sell all bonds it has underwritten, it will end up owning the bonds.

(Managing) shareholdings

Financial institutions can, through the funds they are managing, buy shares of a certain company. This provides the company with new equity, and gives the financial institution a direct influence on the company's strategy. The magnitude of this influence depends on the size of the shareholding.

Also the type of shares has an influence. American Depositary Receipts (ADRs) are receipts representing ownership of shares in foreign companies that trade on U.S. financial markets. Through ADRs, U.S.-investors can invest in securities of non-U.S. companies while avoiding the difficulties of cross-border transactions. An ADR can represent a portion of an ordinary share, one share, or multiple shares of a foreign security. The bank administering the ADRs is called depositary bank. ADR-holders are not direct shareholders of an issuer, and consequently do not automatically have the right to vote as if they were ordinary shareholders. Foreign issuers may extend voting rights also to ADR-holders though. ADR-holders then need to brief the depositary to vote in accordance with their instructions.

Non-voting shares carry very little or no rights to vote and usually provide no right to attend general meetings. Preferred stock is often non-voting.

1.2 Identification and quantification of financial relationships

Lending and underwriting activities of financial institutions for the selected companies and their subsidiaries are researched for the period January 2012 until January 2015. Information is sought in annual reports, stock exchange filings and other publications of the companies concerned, archives of trade magazines, local newspapers and the financial press as well as specialized financial databases (ThomsonONE, Bloomberg). Deals obtained by the parent company and relevant subsidiaries active in the same sector are considered in the analysis. It has to be kept in mind that coverage will never be complete and that in general, information on syndicated loans is easier to find than information on bilateral loan agreements.

The most recent holdings of shares by financial institutions are researched using specialized financial databases (Thomson ONE Banker, Bloomberg) and company publications. Not considered are holdings by individuals, non-financial businesses and government authorities. As there is no register of holders of publically traded shares it is not possible to make a statement on the completeness of these shareholder overviews.

Participation in individual deals

For loans and underwritings of shares or bonds, all deals since 1 January 2012 for which information is available are included in the research. If the amount committed or underwritten per financial institution is unknown, it is estimated based on the following rules of thumb:

- In the case of loans (corporate loans or revolving credit facilities), 40% of the total amount is committed by bookrunners and 60% by other participants of the syndicate. If, however, the amount of bookrunners is (almost) equal to, or higher than, the amount of participants, the reverse is used: 60% for the bookrunners and 40% for the arrangers.
- In the case of share and bond issuances, 75% of the total amount is committed by bookrunners and 25% by other participants of the syndicate. The amount provided by bookrunners should always be higher than the amount provided by participants.

In the case of shareholdings, the amounts per financial institutions are known, so no estimate is needed.

1.3 Personal relationships

In order to identify personal relationships between people in executive positions in the researched pharmaceutical companies on the one hand and leading financial institutions on the other hand, company annual reports and website information, specialized financial publications and media archives are scanned. It has to be kept in mind that board memberships may expire at the next AGM of the relevant company, many of which are scheduled in the upcoming months.

Chapter 2 Financial and personal relationships

2.1 Altor Bioscience (United States)

2.1.1 Company profile

Altor BioScience Corporation, formed in 2002 as a spin-off from Sunol Molecular Corporation, is a U.S.-based privately held clinical-stage biopharmaceutical company. The company is backed by venture capital funds. Business activities include the development of immunotherapeutic products based on multiple proprietary technology platforms for the treatment of cancer, viral infections, and autoimmune diseases. The company has currently three products in clinical development.¹

No detailed financial statements of the company are available. The annual revenue generated by the company is estimated at US\$ 5 million.² It has received several grants by the U.S. National Cancer Institute (NCI) in recent years for its research into cancer treatment.³

2.1.2 Key shareholders

Venture capital funds which have invested in Altor BioScience include Sanderling Ventures, Endeavor Partners, the Florida Growth Fund, Audax Ventures, and TVM Capital.⁴ According to company information from 2011, paid-in capital accounted for US\$ 35 million of financing, while US\$ 14 million were raised via grants.⁵ Funds were raised through several equity and debt issuances since 2008.⁶

2.1.3 Loans

No information on loans obtained by Altor BioScience since January 2012 could be identified.

2.1.4 Share issuances

No information on shares issued by Altor BioScience since January 2012 could be identified.

2.1.5 Bond issuances

No information on bonds issued by Altor BioScience since January 2012 could be identified.

2.1.6 Personal relationships

No personal relationships between Altor BioScience and financial institutions could be identified.

2.2 Bionomics (Australia)

2.2.1 Company profile

Biopharmaceutical company Bionomics is focusing on the discovery and development of treatments for cancer and central nervous system disorders. Collaboration with large pharmaceutical companies, namely U.S.-based Merck & Co., is used to put drugs through advanced development and into the market.⁷

In the financial year ending 30 June 2014, Bionomics generated revenues with a total value of AU\$ 27.5 million (US\$ 25.9 million), resulting in a net profit of AU\$ 3.2 million (US\$ 3.0 million).⁸

2.2.2 Key shareholders

Table 1 lists key shareholders of Bionomics at the latest available filing dates. These 12 institutions account for about 34% of outstanding shares, with a total value of US\$ 81 million.

Table 1 Key shareholders of Bionomics (most recent filing dates)

Investor	Country	% outstanding shares	Value (US\$ million)	Filing Date
Link Enterprises	Australia	9.62	23.63	31-Aug-2014
New York Life Insurance Company	United States	5.74	14.11	31-Aug-2014
The Australian National University	Australia	5.19	12.72	31-Aug-2014
CVC	Australia	3.99	9.78	31-Aug-2014
Leagou Funds Management	Australia	3.72	9.14	31-Aug-2014
City Hill Ventures	United States	1.20	2.95	31-Aug-2014
Wenola	Australia	1.20	2.94	31-Aug-2014
Balzac Investments	Australia	1.15	2.82	31-Aug-2014
Prudential	United Kingdom	1.07	1.57	31-Dec-2014
AW & JE Wilks	Australia	0.64	1.56	31-Aug-2014
BlackRock	United States	0.04	0.06	31-Mar-2015
Dimensional Fund Advisors	United States	0.02	0.03	28-Feb-2015
Total		33.58	81.31	

Source: ThomsonONE, "Shareholdings: Bionomics", viewed in May 2015; Bionomics (2014, August), *Annual report 2014*, p.84-85; own estimates.

2.2.3 Loans

No information on loans obtained by Bionomics since January 2012 could be identified.

2.2.4 Share issuances

One issuance of new shares has been reported for Bionomics and its subsidiaries since January 2012:

- In April 2013, Bionomics issued new shares with a total value of US\$ 17.2 million. The proceeds were used for product development and R&D and to improve the balance sheet. The financial institution acting as bookrunner of the issuance was Bell Potter Securities, part of **Bell Financial Group** (Australia).⁹

2.2.5 Bond issuances

No information on bonds issued by Bionomics since January 2012 could be identified.

2.2.6 Personal relationships

No personal relationships between Bionomics and financial institutions could be identified.

2.3 Intrexon (United States)

2.3.1 Company profile

Intrexon Corporation was founded in 1998 and is based in Florida, United States. The company is engaged in synthetic biology, applying engineering principles to biological systems. Its business focus lies on collaboration with health, food, energy, environment and consumer sector companies to create biologically based products. It is providing its partners with industrial-scale design and development of complex biological systems, using proprietary and complementary technologies for designing, building, and regulating DNA sequences.¹⁰

In the financial year ending 31 December 2013, Intrexon generated revenues with a total value of US\$ 23.8 million, resulting in a net loss of US\$ 39.0 million.¹¹

2.3.2 Key shareholders

Table 1 lists key shareholders of Intrexon at the latest available filing dates. Venture capital firm Third Security, majority shareholder of Intrexon with 60.85%, has been founded by the Chairman of the Board of Directors of Intrexon, Randal J. Kirk.¹² These 25 shareholders account for about 85% of outstanding shares, with a total value of US\$ 2.1 billion.

Table 2 Key shareholders of Intrexon (most recent filing dates)

Investor	Country	% outstanding shares	Value (US\$ million)	Filing Date
Third Security	United States	60.85	1,683.99	31-Dec-2014
Third Point	United States	2.89	53.88	30-Sep-2014
Legg Mason	United States	2.87	53.65	30-Sep-2014
Affiliated Managers Group	United States	2.34	43.77	30-Sep-2014
Arovid Associates	United States	2.24	41.79	30-Sep-2014
Vanguard	United States	2.03	37.89	30-Sep-2014
Fidelity Investments	United States	1.97	36.79	30-Sep-2014
Global Thematic Partners	United States	1.38	25.70	30-Sep-2014
BlackRock	United States	1.28	23.93	30-Sep-2014 until 31-Dec-2014
DST Systems	United States	1.06	19.80	30-Sep-2014
Emerald Asset Management	United States	0.87	16.21	30-Sep-2014
Morgan Stanley	United States	0.61	11.35	30-Sep-2014
JPMorgan Chase	United States	0.55	10.17	30-Sep-2014
State Street	United States	0.53	9.92	30-Sep-2014
Michael & Susan Dell Foundation	United States	0.53	9.91	30-Sep-2014
Northern Trust	United States	0.42	7.87	30-Sep-2014
T. Rowe Price	United States	0.38	7.11	30-Sep-2014
Oracle Investment Management	United States	0.37	6.85	30-Sep-2014
Man Group	United Kingdom	0.29	5.33	30-Sep-2014
Guggenheim Capital	United States	0.20	3.77	30-Sep-2014

Investor	Country	% outstanding shares	Value (US\$ million)	Filing Date
Claar Advisors	United States	0.20	3.74	30-Sep-2014
Greenlight Capital	United States	0.20	3.67	30-Sep-2014
TIAA-CREF	United States	0.18	3.41	30-Sep-2014
Belmont Bank & Trust	United States	0.18	3.32	30-Sep-2014
Bank of New York Mellon	United States	0.17	3.24	30-Sep-2014
Total		84.59	2,127.05	

Source: ThomsonONE, "Shareholdings: Intrexon", viewed in January 2015.

2.3.3 Loans

No information on loans obtained by Intrexon since January 2012 could be identified.

2.3.4 Share issuances

One issuance of new shares and one announcement of a share issuance have been reported for Intrexon and its subsidiaries since January 2012:

- In August 2013, Intrexon issued new shares with a total value of US\$ 160 million. The proceeds were used for product development and R&D, as working capital and for general corporate purposes. Four financial institutions participated in the syndicate, underwriting an amount of:¹³
 - JPMorgan Chase** United States US\$ 96.0 mln
 - Barclays Bank** United Kingdom US\$ 48.0 mln
 - Griffin Securities, part of **Griffin Group** United States US\$ 12.8 mln
 - Mizuho Securities USA, part of **Mizuho Financial** Japan US\$ 3.2 mln
- In January 2015, Intrexon entered into an underwriting agreement relating to the public offering of 3,750,000 shares at an offering price to the public of US\$ 27.0 per share. Net proceeds to the company are expected to be approximately US\$ 95.8 million, after deducting underwriting discounts and commissions and estimated offering expenses. A syndicate of underwriters is represented by JPMorgan Securities, part of JPMorgan Chase (United States) and Merrill Lynch, Pierce, Fenner & Smith, part of Bank of America (United States). The offering was expected to close at the end of January, 2015, subject to the satisfaction of customary closing conditions. The following financial institutions are reported to participate in the syndicate:¹⁴
 - JPMorgan Securities, part of **JPMorgan Chase** United States
 - Merrill Lynch, Pierce, Fenner & Smith, part of **Bank of America** United States
 - Jefferies & Company** United States
 - Griffin Securities** United States
 - Mizuho Securities USA, part of **Mizuho Financial** Japan

2.3.5 Bond issuances

No bond issuance has been reported for Intrexon and its subsidiaries since January 2012. In September 2014, a bond issuance by Intrexon was announced; however, the deal has not been closed. Proceeds were expected to be used for general corporate purposes, as working capital and for capital expenditures and future acquisitions and for repayment of borrowings. No information on the potential value of the offering or the participating financial institutions was available at the time of writing.¹⁵

2.3.6 Personal relationships

The following personal links between Intrexon management staff and financial institutions could be identified:

- **James S. Turley** joined the Board of Intrexon in April 2014.¹⁶ Since 2013, Mr. Turley is also a Member of the Boards of Directors of **Citigroup** and **Citibank** (United States).¹⁷
- In May 2014, Christopher Basta was appointed as Vice President of Investor Relations of Intrexon. In previous years, Mr. Basta worked for more than nine years until 2011 at the Royal Bank of Canada, where he worked in the middle markets division and the institutional equity sales division.¹⁸

2.4 Novartis (Switzerland)

2.4.1 Company profile

Switzerland-based Novartis, which was formed through the merger of Ciba-Geigy and Sandoz Laboratories in 1996, has five key divisions: pharmaceuticals, Alcon (eye care), Sandoz (generics), vaccines and diagnostics, and consumer health.¹⁹

In the financial year ending 31 December 2014, Novartis generated revenues with a total value of US\$ 58.0 billion, resulting in a net profit of US\$ 10.3 billion. The pharmaceutical division accounts for 55% of Novartis' revenues by specializing in drugs to treat hypertension, cancer, Alzheimer and several other non-communicable and age-related degenerative diseases. The Sandoz subsidiary is the second largest generic drug manufacturer in the world, accounting for 16% of revenue in 2014.²⁰

2.4.2 Key shareholders

Table 3 lists key shareholders of Novartis at the latest available filing date. These 25 shareholders account for about 25% of outstanding shares, with a total value of US\$ 62 billion.

Table 3 Key shareholders of Novartis (most recent filing dates)*

Investor	Country	% outstanding shares	Value (US\$ million)	Filing Date
Capital Group	United States	5.16	13,130.75	31-Jul-2014 until 30-Sep-2014
BlackRock	United States	3.82	9,721.33	31-Dec-2013 until 31-Dec-2014
Dodge & Cox	United States	2.41	5,639.75	30-Sep-2014
Norwegian Government Pension Fund - Global	Norway	1.93	4,844.03	31-Dec-2014
UBS	Switzerland	1.46	3,642.98	30-Jun-2014 until 31-Dec-2014
Credit Suisse	Switzerland	1.24	3,121.78	30-Sep-2014 until 31-Dec-2014
Vanguard	United States	1.14	2,879.02	30-Sep-2014 until 31-Dec-2014
Primecap	United States	0.91	2,093.40	30-Sep-2014
Bank of New York Mellon	United States	0.61	1,611.42	31-Mar-2014 until 31-Dec-2014
Sun Life Financial	Canada	0.54	1,403.04	31-Dec-2013 until 30-Nov-2014
Invesco	United States	0.53	1,325.17	31-Dec-2013 until 31-Dec-2014
Pictet & Cie	Switzerland	0.53	1,341.75	30-Sep-2014
Northern Cross	United States	0.50	1,282.33	30-Sep-2014
ABP	Netherlands	0.45	1,132.83	31-Dec-2014
Brown Brothers Harriman	United States	0.46	1,077.73	30-Sep-2014 until 30-Nov-2014
Wellington Management	United States	0.46	1,180.40	30-Sep-2014 until 30-Nov-2014
JPMorgan Chase	United States	0.42	1,078.48	31-Dec-2013 until

Investor	Country	% outstanding shares	Value (US\$ million)	Filing Date
T. Rowe Price	United States	0.37	969.96	30-Sep-2014 until 30-Nov-2014
Thornburg Investment Management	United States	0.37	959.97	30-Sep-2014 until 30-Nov-2014
TIAA-CREF	United States	0.36	944.13	30-Sep-2014 until 30-Nov-2014
Fidelity Worldwide Investment	Bermuda	0.35	894.00	30-Sep-2014 until 31-Dec-2014
Henderson Group	United Kingdom	0.33	871.18	30-Nov-2014
Prudential	United Kingdom	0.33	824.57	31-Dec-2013 until 31-Oct-2014
Deutsche Bank	Germany	0.32	814.60	31-Jul-2014 until 31-Dec-2014
Fidelity Investments	United States	0.32	818.27	30-Sep-2014 until 30-Nov-2014
Total		25.32	62,470.04	

*includes ordinary shares and ADRs;

Source: ThomsonONE, "Shareholdings: Novartis", viewed in January 2015; ABP (2015, March), *Beursgenoteerde beleggingen van ABP - Aandelen & Converteerbare obligaties*; own calculations; Government Pension Fund Global (2015, March), *Holdings of Equities at 31 December 2014*; own estimates.

2.4.3 Loans

No newly obtained loans by Novartis or its subsidiaries could be identified since January 2012.

2.4.4 Share issuances

Two share issuances have been reported for Novartis and its subsidiaries since January 2012:

- In August 2012, Novartis India issued new shares with a total value of US\$ 2.7 million. The proceeds were used for general corporate purposes. No financial institutions involved in the issuance could be identified.²¹
- In May 2013, Novartis India issued new shares with a total value of US\$ 4.4 million. The proceeds were used for general corporate purposes. The share issuance was underwritten by Citigroup Global Markets India, a subsidiary of **Citigroup** (United States).²²

2.4.5 Bond issuances

Three bond issuances have been reported for Novartis and its subsidiaries since January 2012:

- In September 2012, Novartis Capital (United States) issued new bonds with a total value of US\$ 2,000 million. The issue was divided in two tranches: a 2.400% ten-year tranche with a value of US\$ 1,500 million and a 3.700% 20-year tranche with a value of US\$ 500 million. The proceeds were used for refinancing, reducing indebtedness and general corporate purposes. Twelve financial institutions participated in the syndicate, underwriting an amount of:²³

- **JPMorgan Chase** United States US\$ 400.0 mln

- | | | |
|---|----------------|----------------|
| • Morgan Stanley | United States | US\$ 400.0 mln |
| • BNP Paribas Securities, part of BNP Paribas | France | US\$ 180.0 mln |
| • Merrill Lynch, Pierce, Fenner & Smith, part of Bank of America | United States | US\$ 180.0 mln |
| • Citigroup Global Markets, part of Citigroup | United States | US\$ 180.0 mln |
| • UBS Securities, part of UBS | Switzerland | US\$ 180.0 mln |
| • Barclays Capital, part of Barclays | United Kingdom | US\$ 80.0 mln |
| • Deutsche Bank Securities, part of Deutsche Bank | Germany | US\$ 80.0 mln |
| • HSBC Securities, part of HSBC | United Kingdom | US\$ 80.0 mln |
| • Credit Suisse Securities, part of Credit Suisse | Switzerland | US\$ 80.0 mln |
| • Goldman Sachs | United Kingdom | US\$ 80.0 mln |
| • RBS Securities, part of Royal Bank of Scotland | United Kingdom | US\$ 80.0 mln |
- In February 2014, Novartis Capital (United States) issued new bonds with a total value of US\$ 4,000 million. The issue was divided in two tranches: a 3.400% ten-year tranche with a value of US\$ 2,150 million and a 4.400% twenty-year tranche with a value of US\$ 1,850 million. The proceeds were used for general corporate purposes. Twelve financial institutions participated in the syndicate, underwriting an amount of:²⁴
- | | | |
|---|----------------|----------------|
| • Goldman Sachs | United States | US\$ 800.0 mln |
| • Bank of America | United States | US\$ 800.0 mln |
| • Barclays Capital Group, part of Barclays | United Kingdom | US\$ 320.0 mln |
| • Citi, part of Citigroup | United States | US\$ 320.0 mln |
| • Credit Suisse | Switzerland | US\$ 320.0 mln |
| • Deutsche Bank | Germany | US\$ 320.0 mln |
| • JPMorgan Chase | United States | US\$ 320.0 mln |
| • BNP Paribas Securities, part of BNP Paribas | France | US\$ 160.0 mln |
| • HSBC Bank USA, part of HSBC | United Kingdom | US\$ 160.0 mln |
| • Morgan Stanley | United States | US\$ 160.0 mln |
| • RBS Securities, part of Royal Bank of Scotland | United Kingdom | US\$ 160.0 mln |
| • UBS Securities, part of UBS | Switzerland | US\$ 160.0 mln |
- In October 2014, Novartis Finance (Luxembourg) issued new bonds with a total value of € 1,200 million (US\$ 1,503 million). The issue was divided in two tranches: a 0.750% seven-year tranche with a value of € 600 million (US\$ 752 million) and a 1.625% twelve-year tranche with a value of € 600 million (US\$ 752 million). The proceeds were used for general corporate purposes. Three financial institutions participated in the syndicate, underwriting an estimated amount of:²⁵
- | | | |
|---|----------------|----------------|
| • Barclays Capital Group, part of Barclays | United Kingdom | US\$ 501.0 mln |
| • Deutsche Bank | Germany | US\$ 501.0 mln |
| • BNP Paribas | Malaysia | US\$ 501.0 mln |

2.4.6 Personal relationships

The following personal links between Novartis management staff and financial institutions could be identified:

- **Enrico Vanni** is a Vice Chairman of the Board of Directors of Novartis.²⁶ Since 2009, he is also acting as an independent member of the Board of Directors at the Switzerland-based **Banque Privée BCP**, part of Banco Comercial Português (Portugal).²⁷ In addition, he is a member of the board of directors of Swiss private bank **Lombard Odier**.²⁸

- **Pierre Landolt** has been a member of the Board of Directors of Novartis since 1996, qualifying as an independent Non-Executive Director. He is Chairman of the Governance, Nomination and Corporate Responsibilities Committee.²⁹ He is also Chairman of the private bank **Landolt & Cie** (Switzerland).³⁰
- **Andreas von Planta** has been a member of the Board of Directors of Novartis since 2006, qualifying as an independent Non-Executive Director. He is Chairman of the Risk Committee, and a member of the Audit and Compliance Committee, as well as the Governance, Nomination and Corporate Responsibilities Committee.³¹ At the same time he is the Chairman of the Board of **HSBC Private Bank Suisse** and **HSBC Private Banking Holdings** (Suisse), part of HSBC (United Kingdom).³² He has also been a member of the Board of Directors of **Nationale Suisse** (Schweizerische National Versicherungs Gesellschaft) since 1997, acting as Chairman since 2010. He continued in this role after the completion of the takeover of Nationale Suisse by Swiss insurance company Helvetia in 2014.³³
- William T. Winters, a member of the Novartis Board of Directors since 2013 and current member of the Compensation Committee, is a former member of the UK Independent Commission on Banking, and served as co-CEO of JPMorgan's investment banking business from 2003 to 2010.³⁴

2.5 Pfizer (United States)

2.5.1 Company profile

Pfizer is a U.S. based pharmaceutical company. Its health care portfolio includes human biologic and small molecule medicines and vaccines, as well as many of the world's most widely used consumer health care products.³⁵

In the financial year ending 31 December 2013, Pfizer generated revenues with a total value of US\$ 51.6 billion, resulting in a net profit of US\$ 22.0 billion. Biopharmaceutical products, including primary care, specialty care and oncology, and established care, accounted for about 93% of revenues, consumer health care for 6%.³⁶

2.5.2 Key shareholders

Table 4 lists key shareholders of Pfizer at the latest available filing dates. These 25 shareholders account for about 41% of outstanding shares, with a total value of US\$ 76 billion.

Table 4 Key shareholders of Pfizer (most recent filing dates)

Investor	Country	% outstanding shares	Value (US\$ million)	Filing Date
BlackRock	United States	6.75	12,600.19	30-Sep-2013 until 31-Dec-2014
Vanguard	United States	5.30	9,876.62	30-Sep-2014
State Street	United States	4.42	8,249.02	30-Sep-2014 until 31-Dec-2014
Capital Group	United States	2.51	4,676.45	30-Sep-2014
Bank of New York Mellon	United States	1.90	3,533.86	30-Sep-2014
Franklin Resources	United States	1.56	2,906.68	30-Sep-2014 until 31-Dec-2014
Wellington Management	United States	1.55	2,879.19	30-Sep-2014
Northern Trust	United States	1.53	2,880.34	31-Dec-2013 until 30-Sep-2014
Bank of America	United States	1.30	2,412.48	30-Sep-2014
T. Rowe Price	United States	1.28	2,383.33	30-Sep-2014
Sun Life Financial	Canada	1.27	2,355.85	30-Sep-2014
State Administration for Foreign Exchange	China	1.19	2,219.61	22-May-2014
AXA	France	1.05	1,970.52	30-Jun-2013 until 30-Nov-2014
Old Mutual	United Kingdom	1.02	1,890.51	30-Jun-2014 until 30-Sep-2014
State Farm	United States	0.95	1,764.76	30-Sep-2014
JPMorgan Chase	United States	0.91	1,697.00	30-Sep-2013 until 30-Sep-2014
Ameriprise Financial	United States	0.89	1,655.21	30-Sep-2014
Norwegian Government Pension Fund - Global	Norway	0.83	1,594.41	31-Dec-2014
Geode Capital Management	United States	0.77	1,433.10	30-Sep-2014

Investor	Country	% outstanding shares	Value (US\$ million)	Filing Date
Invesco	United States	0.77	1,415.90	30-Sep-2014
Dodge & Cox	United States	0.76	1,407.68	30-Sep-2014
Deutsche Bank	Germany	0.75	1,418.75	30-Sep-2014 until 31-Dec-2014
Power Financial Corporation	Canada	0.74	1,376.23	30-Jun-2013 until 31-Oct-2014
Dimensional Fund Advisors	United States	0.71	1,324.83	30-Sep-2014 until 31-Oct-2014
Orix Corporation	Japan	0.70	1,303.42	30-Sep-2014
Total		41.41	75,631.53	

Source: ThomsonONE, "Shareholdings: Pfizer", viewed in January 2015; Government Pension Fund Global (2015, March), *Holdings of Equities at 31 December 2014*.

2.5.3 Loans

Two credit facilities have been reported for Pfizer and its subsidiaries since January 2012:

- In November 2013, Pfizer secured a US\$ 7,000 million five-year revolving credit facility from a syndicate of twenty banks. The proceeds are destined for general corporate purposes. The following financial institutions participated in the syndicate, committing an amount of:³⁷
 - Bank of America** United States US\$ 591.0 mln
 - Barclays** United Kingdom US\$ 591.0 mln
 - Citi, part of Citigroup** United States US\$ 591.0 mln
 - Credit Suisse** Switzerland US\$ 591.0 mln
 - Deutsche Bank** Germany US\$ 591.0 mln
 - Goldman Sachs** United States US\$ 591.0 mln
 - HSBC** United Kingdom US\$ 591.0 mln
 - JPMorgan Chase** United States US\$ 591.0 mln
 - Morgan Stanley** United States US\$ 591.0 mln
 - Royal Bank of Canada** Canada US\$ 591.0 mln
 - BNP Paribas** France US\$ 230.0 mln
 - Grupo Santander** Spain US\$ 230.0 mln
 - Royal Bank of Scotland** United Kingdom US\$ 230.0 mln
 - Northern Trust** United States US\$ 80.0 mln
 - Standard Chartered** United Kingdom US\$ 80.0 mln
 - US Bancorp** United States US\$ 80.0 mln
 - Bank of China** China US\$ 40.0 mln
 - Industrial and Commercial Bank of China** China US\$ 40.0 mln
 - Intesa Sanpaolo** Italy US\$ 40.0 mln
 - Société Générale** France US\$ 40.0 mln
- In November 2014, a US\$ 7,000 million five-year revolving credit facility was announced for Pfizer. This agreement has apparently not been closed at the time of writing. The proceeds are destined for refinancing and general corporate purposes. **JPMorgan Chase** is acting as the arranger.³⁸

2.5.4 Share issuances

The following share exchange offer has been reported for Pfizer and its subsidiaries since January 2012:

- In June 2013, Pfizer announced an exchange offer which enabled its shareholders to exchange all, some or none of their shares of Pfizer common stock for shares of Zoetis common stock. At the time, Pfizer held approximately 80% of the outstanding shares of Zoetis, a U.S.-based animal health company. Since the exchange, Zoetis became a fully independent company.³⁹ The following financial institutions served as dealer managers in the exchange offer:⁴⁰

• J.P. Morgan Securities, part of JPMorgan Chase	United States
• Bank of America Merrill Lynch, part of Bank of America	United States
• Goldman Sachs	United States
• Morgan Stanley	United States

2.5.5 Bond issuances

Two bond issuances have been reported for Pfizer and its subsidiaries since January 2012:

- In May 2013, Pfizer issued new bonds with a total value of US\$ 4,000 million. The issue was divided in 5 tranches: a 0.900% four-year tranche with a value of US\$ 750 million; a 1.500% five-year tranche with a value of US\$ 1,000 million; a floating rate five-year tranche with a value of US\$ 500 million; a 3.000% ten-year tranche with a value of US\$ 1,000 million; and a 4.300% thirty-year tranche with a value of US\$ 750 million. The proceeds were used to reduce indebtedness and for general corporate purposes. 16 financial institutions participated in the syndicate, underwriting an estimated amount of:⁴¹

• Credit Suisse Securities, part of Credit Suisse	Switzerland	US\$ 670.0 mln
• Citigroup Global Markets, part of Citigroup	United States	US\$ 670.0 mln
• Goldman Sachs	United States	US\$ 670.0 mln
• RBS Securities, part of Royal Bank of Scotland	United Kingdom	US\$ 670.0 mln
• RBC Capital Markets, part of Royal Bank of Canada	Canada	US\$ 330.0 mln
• Barclays Capital, part of Barclays	United Kingdom	US\$ 240.0 mln
• HSBC Securities, part of HSBC	United Kingdom	US\$ 240.0 mln
• Deutsche Bank Securities, part of Deutsche Bank	Germany	US\$ 96.0 mln
• Santander Investment Securities, part of Grupo Santander	Spain	US\$ 96.0 mln
• BNP Paribas Securities, part of BNP Paribas	France	US\$ 74.0 mln
• Standard Chartered Capital Markets, part of Standard Chartered	United Kingdom	US\$ 74.0 mln
• US Bancorp	United States	US\$ 74.0 mln
• Drexel Hamilton	United States	US\$ 24.0 mln
• Lebenthal, part of Alexandra & James	United States	US\$ 24.0 mln
• Loop Capital	United States	US\$ 24.0 mln
• Williams Capital Group	United States	US\$ 24.0 mln

- In May 2014, Pfizer issued new bonds with a total value of US\$ 4,500 million. The issue was divided in five tranches: a 1.100% three-year tranche with a value of US\$ 500 million; a floating rate three-year tranche with a value of US\$ 500 million; a 2.100% five-year tranche with a value of US\$ 1,500 million; a 3.400% ten-year tranche with a value of US\$ 1,000 million; and a 4.400% thirty-year tranche with a value of US\$ 500 million. The proceeds were used to reduce indebtedness, for refinancing and general corporate purposes. 15 financial institutions participated in the syndicate, underwriting an amount of:⁴²

• Merrill Lynch, Pierce, Fenner & Smith, part of Bank of America	United States	US\$ 753.8 mln
• Barclays Capital, part of Barclays	United Kingdom	US\$ 753.8 mln
• Deutsche Bank Securities, part of Deutsche Bank	Germany	US\$ 753.8 mln
• JPMorgan Securities, part of JPMorgan Chase	United States	US\$ 753.8 mln
• BNP Securities, part of BNP Paribas	France	US\$ 315.0 mln
• Credit Suisse Securities, part of Credit Suisse	Switzerland	US\$ 315.0 mln
• RBC Capital Markets, part of Royal Bank of Canada	Canada	US\$ 315.0 mln
• Citigroup Global Markets, part of Citigroup	United States	US\$ 144.0 mln
• HSBC Securities, part of HSBC	United Kingdom	US\$ 144.0 mln
• RBS Securities, part of Royal Bank of Scotland	United Kingdom	US\$ 72.0 mln
• Santander Investment Securities, part of Grupo Santander	Spain	US\$ 72.0 mln
• Drexel Hamilton	United States	US\$ 27.0 mln
• Loop Capital	United States	US\$ 27.0 mln
• Lebenthal, part of Alexandra & James	United States	US\$ 27.0 mln
• Williams Capital Group	United States	US\$ 27.0 mln

2.5.6 Personal relationships

The following personal links between Pfizer management staff and financial institutions could be identified:

- Marc Tessier-Lavigne was a member of the Board of Directors of Pfizer until May 2015.⁴³ Besides that, he is a Class C Director, appointed to represent the public, in the Board of Directors of the Federal Reserve Bank of New York, until 2016.⁴⁴

2.6 Roche Holding (Hoffmann-La Roche) (Switzerland)

2.6.1 Company profile

Swiss-based Roche Holding (Roche) is active in two business areas: pharmaceuticals and diagnostics. The pharmaceuticals division accounts for approximately 77% of Roche's annual revenues. Roche states to be the world's number 1 in oncology, *in vitro* diagnostics, the hospital market and biotechnology.⁴⁵ Over half of the compounds in the company's product pipeline are biopharmaceuticals.⁴⁶

In the financial year ending 31 December 2013, Roche generated revenues with a total value of CHF 47.5 billion (US\$ 50.0 billion), resulting in a net profit of CHF 9.5 billion (US\$ 9.6 billion).⁴⁷

2.6.2 Key shareholders

Table 5 lists key shareholders of Roche at the latest available filing dates. These 25 shareholders account for about 18% of total outstanding shares, with a total value of US\$ 42 billion.ⁱ The non-financial stakeholders holding a large share in the company are Swiss pharmaceutical company Novartis; and a shareholder group with pooled voting rights, consisting of individuals and a charitable foundation.⁴⁸

Table 5 Key shareholders of Roche (most recent filing dates)*

Investor	Country	% outstanding shares	Value (US\$ million)	Filing Date
Dodge & Cox	United States	1.71	3,999.82	30-Jun-2013 until 31-Dec-2014
Norwegian Government Pension Fund - Global	Norway	1.63	3,815.87	31-Dec-2014
BlackRock	United States	1.70	3,977.64	31-Jul-2013 until 31-Jan-2015
Wellington Management	United States	1.24	2,917.03	31-Dec-2014 until 31-Jan-2015
Primecap	United States	1.20	2,816.27	30-Sep-2014 until 31-Dec-2014
Vanguard	United States	1.12	2,615.53	31-Jan-2015
UBS	Switzerland	1.11	2,608.57	30-Jun-2013 until 31-Jan-2015
Credit Suisse	Switzerland	1.07	2,520.04	30-Sep-2014 until 31-Jan-2015
Fidelity Investments	United States	0.77	1,798.82	30-Jun-2013 until 31-Dec-2014
Sun Life Financial	Canada	0.59	1,374.26	30-Jun-2014 until 31-Jan-2015
Capital Group	United States	0.59	1,373.62	31-Dec-2013 until 31-Jan-2015
Fidelity Worldwide Investment	Bermuda	0.58	1,370.95	30-Apr-2013 until 31-Jan-2015
Northern Cross	United States	0.55	1,278.60	31-Dec-2014

ⁱ Including ordinary shares, non-voting shares and ADRs.

Investor	Country	% outstanding shares	Value (US\$ million)	Filing Date
Bank of New York Mellon	United States	0.54	1,256.46	31-Jul-2013 until 31-Jan-2015
Pictet & Cie	Switzerland	0.48	1,119.70	30-Jun-2014 until 31-Jan-2015
ABP	Netherlands	0.44	1,028.30	31-Dec-2014
JPMorgan Chase	United States	0.42	976.36	31-Dec-2013 until 31-Jan-2015
Franklin Resources	United States	0.34	808.98	30-Jun-2013 until 31-Jan-2015
Henderson Group	United Kingdom	0.32	761.22	31-Dec-2014
Thornburg Investment Management	United States	0.31	733.29	31-Dec-2014
Deutsche Bank	Germany	0.31	723.51	31-Mar-2014 31-Jan-2015
Standard Life	United Kingdom	0.31	718.83	30-Jun-2014 31-Jan-2015
Swisscanto Holding	Switzerland	0.30	708.09	30-Nov-2014
Aberdeen Asset Management	United Kingdom	0.29	685.87	30-Jun-2013 until 31-Dec-2014
Caisse de Dépôt et Placement du Québec	Canada	0.26	620.87	31-Dec-2013
Total		18.18	41,580.20	

* including holders of ordinary shares, non-voting shares and ADRs;

Source: ThomsonONE, "Shareholdings: Roche Holding", viewed in February 2015; ABP (2015, March), *Beursgenoteerde beleggingen van ABP - Aandelen & Converteerbare obligaties*; own calculations; Government Pension Fund Global (2015, March), *Holdings of Equities at 31 December 2014*.

2.6.3 Loans

Three credit facilities have been reported for Roche and its subsidiaries since January 2012:

- In March 2012, Roche's subsidiary Chugai Pharmaceuticals (Japan) secured a US\$ 483 million five-year revolving credit facility from a syndicate of ten banks. The proceeds can be used as working capital. The following financial institutions participated in the syndicate, committing an estimated amount of:⁴⁹
 - Sumitomo Mitsui Banking Corporation, part of **Sumitomo Mitsui Financial** Japan US\$ 193.3 mln
 - Bank of Tokyo-Mitsubishi UFJ and Mitsubishi UFJ Trust & Banking, part of **Mitsubishi UFJ Financial** Japan US\$ 64.4 mln
 - Sumitomo Trust & Banking and Chuo Mitsui Trust & Banking, part of **Sumitomo Mitsui Trust** Japan US\$ 64.4 mln
 - Mizuho Bank, part of **Mizuho Financial** Japan US\$ 32.2 mln
 - **Norinchukin Bank** Japan US\$ 32.2 mln
 - Resona Bank, part of **Resona Group** Japan US\$ 32.2 mln
 - **Shinsei Bank** Japan US\$ 32.2 mln
 - **Shizuoka Bank** Japan US\$ 32.2 mln

- In March 2013, Roche's subsidiary Chugai Pharmaceuticals (Japan) secured a US\$ 425 million five-year revolving credit facility from a syndicate of nine banks. The proceeds can be used as working capital. The following financial institutions participated in the syndicate, committing an estimated amount of:⁵⁰

• Sumitomo Mitsui Banking Corporation, part of Sumitomo Mitsui Financial	Japan	US\$ 169.9 mln
• Bank of Tokyo-Mitsubishi UFJ and Mitsubishi UFJ Trust & Banking, part of Mitsubishi UFJ Financial	Japan	US\$ 63.7 mln
• Mizuho Bank, part of Mizuho Financial	Japan	US\$ 31.9 mln
• Norinchukin Bank	Japan	US\$ 31.9 mln
• Resona Bank, part of Resona Group	Japan	US\$ 31.9 mln
• Shinsei Bank	Japan	US\$ 31.9 mln
• Shizuoka Bank	Japan	US\$ 31.9 mln
• Sumitomo Mitsui Trust Bank, part of Sumitomo Mitsui Trust	Japan	US\$ 31.9 mln

- In March 2014, Roche's subsidiary Chugai Pharmaceuticals (Japan) secured a US\$ 388 million one-year revolving credit facility from a syndicate of nine banks. The proceeds can be used as working capital. The following financial institutions participated in the syndicate, committing an estimated amount of:⁵¹

• Sumitomo Mitsui Banking Corporation, part of Sumitomo Mitsui Financial	Japan	US\$ 155.0 mln
• Bank of Tokyo-Mitsubishi UFJ and Mitsubishi UFJ Trust & Banking, part of Mitsubishi UFJ Financial	Japan	US\$ 58.1 mln
• Mizuho Bank, part of Mizuho Financial	Japan	US\$ 29.1 mln
• Norinchukin Bank	Japan	US\$ 29.1 mln
• Resona Bank, part of Resona Group	Japan	US\$ 29.1 mln
• Shinsei Bank	Japan	US\$ 29.1 mln
• Shizuoka Bank	Japan	US\$ 29.1 mln
• Sumitomo Mitsui Trust Bank, part of Sumitomo Mitsui Trust	Japan	US\$ 29.1 mln

2.6.4 Share issuances

No share issuances have been reported for Roche Holding and its subsidiaries since January 2012.

2.6.5 Bond issuances

Five bond issuances have been reported for Roche Holding and its subsidiaries since January 2012:

- In February 2012, Roche Kapitalmarkt (Switzerland) issued new bonds with a total value of CHF 1,100 million (US\$ 1,199 million). The issue was divided in two tranches: a 1.000% six-year tranche with a value of CHF 600 million (US\$ 654.2 million); and a 1.625% ten-year tranche with a value of CHF 500 million (US\$ 545.2 million). Two financial institutions participated in the syndicate, underwriting an estimated amount of:⁵²

• Credit Suisse	Switzerland	US\$ 599.7 mln
• UBS	Switzerland	US\$ 599.7 mln

- In March 2012, Roche Finance Europe (Netherlands) issued new bonds with a total value of € 1,000 million (US\$ 1,303 million). The 2.000%-bonds have a maturity of six years. The proceeds were used for general corporate purposes. Three financial institutions participated in the syndicate, underwriting an amount of:⁵³

• BNP Paribas	France	US\$ 434.4 mln
• Grupo Santander	Spain	US\$ 434.3 mln
• UniCredit	Italy	US\$ 434.3 mln

- In May 2014, Roche Holdings (United States) issued new bonds with a total value of US\$ 5,750 million. The issue was divided in six tranches: a floating rate three-year tranche with a value of US\$ 300 million; a 1.350% three-year tranche with a value of US\$ 850 million; a floating rate five-year tranche with a value of US\$ 500 million; a 2.250% five-year tranche with a value of US\$ 1,500 million; a 2.875% seven-year tranche with a value of US\$ 1,300 million; and a 3.350% ten-year tranche with a value of US\$ 1,300 million. The proceeds were used for general corporate purposes. Four financial institutions participated in the syndicate, underwriting an estimated amount of:⁵⁴

• Credit Suisse	Switzerland	US\$ 1,437.5 mln
• Deutsche Bank Securities, part of Deutsche Bank	Germany	US\$ 1,437.5 mln
• JPMorgan Securities, part of JPMorgan Chase	United States	US\$ 1,437.5 mln
• Mitsubishi UFJ Securities USA, part of Mitsubishi UFJ Financial	Japan	US\$ 1,437.5 mln

- In November 2014, Roche Holdings (United States) issued 3.350% ten-year bonds with a total value of US\$ 350 million. The proceeds were used to reduce indebtedness, for refinancing and general corporate purposes. Four financial institutions participated in the syndicate, underwriting an estimated amount of:⁵⁵

• Credit Suisse	Switzerland	US\$ 87.5 mln
• Deutsche Bank Securities, part of Deutsche Bank	Germany	US\$ 87.5 mln
• JPMorgan Securities, part of JPMorgan Chase	United States	US\$ 87.5 mln
• Mitsubishi UFJ Securities USA, part of Mitsubishi UFJ Financial	Japan	US\$ 87.5 mln

- In November 2014, Roche Holdings (United States) issued 4.000% thirty-year bonds with a value of US\$ 650 million. The proceeds were used to reduce indebtedness, for refinancing and general corporate purposes. Three financial institutions participated in the syndicate, underwriting an estimated amount of:⁵⁶

• Barclays Capital, part of Barclays	United Kingdom	US\$ 216.7 mln
• JPMorgan Securities, part of JPMorgan Chase	United States	US\$ 216.7 mln
• RBS Securities, part of Royal Bank of Scotland	United Kingdom	US\$ 216.7 mln

2.6.6 Personal relationships

The following personal links between Roche management staff and financial institutions could be identified:

- **Severin Schwan** has been the CEO at Roche Group since 2008.⁵⁷ Since the AGM in 2014, he is also a Member of the Board of Directors of **Credit Suisse Group**, participating in the Risk Committee.⁵⁸
- **Beatrice Weder di Mauro** has been a member of the Board of Directors of Roche Holding since 2006.⁵⁹ She was elected to the Board of Directors of **UBS** (Switzerland) in 2012. In UBS she has been a member of the Audit Committee since 2012 and joined the Risk Committee in 2013.⁶⁰

Appendix 1 References

- 1 Altor BioScience (n.d.), "Who we are", online: <http://www.althorbioscience.com/corpinfo.html>, viewed in February 2015.
- 2 Owler (n.d.), "Altor BioScience revenue estimate", online: <https://www.owler.com/iaApp/poll/52610631e4b06937d9669939/Altor%20BioScience%20Corporation/what-is-althor-bioscience-corporation-s-annual-revenue-.htm>, viewed in February 2015.
- 3 Altor BioScience (2014, November 4), *Altor BioScience Initiates Clinical Development of its Novel IL-15 Super Agonist ALT-803 for Relapsed / Refractory Multiple Myeloma Supported by a Newly Awarded Phase II SBIR Grant from NCI*;
Altor BioScience (2014, August 19), *Altor BioScience Awarded SBIR Phase II Grant by NCI for Clinical Development of its Novel IL-15 Super Agonist for Non-muscle Invasive Bladder Cancer*;
Altor BioScience (2012, September 27), *Altor BioScience Awarded Two SBIR Phase I Grants by NCI for Research on its Novel IL-15 Super Agonists for Hematologic Cancers*.
- 4 Altor BioScience (n.d.), "Who we are", online: <http://www.althorbioscience.com/corpinfo.html>, viewed in February 2015;
Kling, J. (2008), *Altor BioScience Corp.*, Windhover Information.
- 5 Pounds, M.H. (2011, June 3), "Miramar firm showcases South Florida's life-science industry", *SunSentinel*, online: http://articles.sun-sentinel.com/2011-06-03/business/fl-bioscience-south-florida-20110603_1_south-florida-life-science-clinical-trials, viewed in February 2015.
- 6 *U.S. Securities and Exchange Commission*, "Altor BioScience Corp.", online: <http://www.sec.gov/>, viewed in February 2015.
- 7 Bionomics (n.d.), "About", online: <http://www.bionomics.com.au/about>, viewed in May 2015.
- 8 Bionomics (2014, August), *Annual report 2014*, p.37.
- 9 *ThomsonONE Banker*, 'Tearsheet 2946324', viewed in May 2015.
- 10 Intrexon (n.d.), "About Intrexon", online: <http://www.dna.com/AboutIntrexon>, viewed in February 2015.
- 11 Intrexon (2014, March 20), *Form 10-K*, U.S. Securities and Exchange Commission.
- 12 Third Security (n.d.), "Our people", online: http://www.thirdsecurity.com/whoweare/ourpeople.cfm#bio_01, viewed in February 2015;
Intrexon (n.d.), "Randal J. Kirk - Chairman and Chief Executive Officer", online: <http://www.dna.com/Company/Board-of-Directors/Kirk>, viewed in February 2015.
- 13 *ThomsonONE Banker*, 'Tearsheet 2537083002', viewed in January 2015;
Intrexon (2013, July 3), *Form S-1*, U.S. Securities and Exchange Commission.
- 14 Intrexon (2015, January 22), *Form 8-K*, U.S. Security and Exchange Commission.
- 15 *ThomsonONE Banker*, "Tearsheet 5313032", viewed in January 2015.
- 16 Intrexon, "About Intrexon – Leadership – Board of Directors", online: <http://www.dna.com/Company/Board-of-Directors/Turley>, viewed in February 2015;
Intrexon (2014, April 16), *Intrexon Appoints Former Ernst & Young CEO James S. Turley to Board of Directors*.
- 17 Citigroup, "About us – Board of Directors", online: http://www.citigroup.com/citi/about/our_leaders.html?group=boardofdirectors, viewed in February 2015
- 18 Intrexon (2014, May 19), *Intrexon Names Christopher Basta Vice President of Investor Relations*.
- 19 Novartis (n.d.), "Healthcare portfolio", online: <http://www.novartis.com/about-novartis/healthcare-portfolio/index.shtml>, viewed in February 2015.
- 20 Novartis (2015, February), *Annual report 2014*.
- 21 *ThomsonONE Banker*, 'Tearsheet 2443212107', viewed in January 2015.
- 22 *ThomsonONE Banker*, 'Tearsheet 2525360009', viewed in January 2015.

- 23 *Bloomberg*, "BBID:EJ3705609", viewed in January 2015;
Bloomberg, "BBID:EJ3705658", viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2451350001', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2451402001', viewed in January 2015.
- 24 *Bloomberg*, "BBID:EK0811787", viewed in January 2015;
Bloomberg, "BBID:EK0812140", viewed in January 2015
ThomsonONE Banker, 'Tearsheet 2610649001', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2610650001', viewed in January 2015.
- 25 *Bloomberg*, "BBID:EK5787123", viewed in January 2015;
Bloomberg, "BBID:EK5787362", viewed in January 2015
ThomsonONE Banker, 'Tearsheet 2690957006', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2690955006', viewed in January 2015.
- 26 Novartis (2015, January), *Curriculum Vitae: Enrico Vanni, Ph.D.*
- 27 Banque Privée BCP, "About Us – Governance – Board of Directors", online: <https://www.millenniumbp.ch/#aboutus>, viewed in February 2015
- 28 Novartis (2015, January), *Curriculum Vitae: Enrico Vanni, Ph.D.*;
Neue Zürcher Zeitung (2014, January 9), "Lombard Odier erweitert Führungsorgane".
- 29 Novartis (2015, January), *Curriculum Vitae: Pierre Landolt, Ph.D.*;
- 30 Landolt & Cie SA, "Home – Family", online: <http://www.landoltetcie.ch/en/landolt-et-compagnie.htm>, viewed in February 2015.
- 31 Novartis (2015, January), *Curriculum Vitae: Andreas von Planta, Ph.D.*
- 32 HSBC Private Bank (Suisse) (2014), *Annual report 2013*;
Bloomberg Business, "Company Overview – HSBC Private Bank (Suisse) SA – People", online: <http://www.bloomberg.com/research/stocks/private/people.asp?privcapId=4509261>, viewed in February 2015;
Who'sWhoLegal (n.d.), "Andreas von Planta", online: <http://whoswholegal.com/profiles/26423/0/von%20planta/andreas-von-planta/>, viewed in February 2015.
- 33 Nationale Suisse (n.d.), "Board of Directors of Nationale Suisse - Andreas von Planta", online: <http://www.nationalesuisse.com/en/about-us/portrait/organisation/directors-board/andreas-von-planta>, viewed in February 2015;
Helvetia Suisse Insurance Company (2014, September), *Agenda of the extraordinary Shareholders' Meeting on 17 September 2014*.
- 34 Novartis (2015, February), *Curriculum Vitae: William T. Winters*.
- 35 Pfizer (n.d.), "About Pfizer", online: <http://www.pfizer.com/about>, viewed in February 2015.
- 36 Pfizer (2014), *Annual report 2013*.
- 37 *ThomsonONE Banker*, 'Tearsheet 3034097116', viewed in January 2015.
- 38 *ThomsonONE Banker*, 'Tearsheet 7123780116', viewed in January 2015.
- 39 Zoetis (2013, May 22), *Zoetis To File Registration Statement; Comments on Pfizer's Split-off Plans for Remaining Interest in Zoetis*.
- 40 Pfizer (2013, June 19), *Form 425*, U.S. Securities and Exchange Commission.
- 41 *Bloomberg*, "BBID:EJ6969426", viewed in January 2015;
Bloomberg, "BBID:EJ6969020", viewed in January 2015;
Bloomberg, "BBID:EJ6969228", viewed in January 2015;
Bloomberg, "BBID:EJ6969475", viewed in January 2015;
Bloomberg, "BBID:EJ6969376", viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2525113001', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2525202001', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2525207001', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2525205001', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2525201001', viewed in January 2015.

- 42 *Bloomberg*, "BBID:EK2707835", viewed in January 2015;
Bloomberg, "BBID:EK2708312", viewed in January 2015;
Bloomberg, "BBID:EK2708494", viewed in January 2015;
Bloomberg, "BBID:EK2707595", viewed in January 2015;
Bloomberg, "BBID:EK2708676", viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2636640001', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2636642001', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2636641001', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2636643001', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2636738001', viewed in January 2015.
- 43 Pfizer (2015, May 14), "Marc Tessier-Lavigne, Ph.D. to Leave Pfizer Board of Directors", online:
http://www.pfizer.com/news/press-release/press-release-detail/marc_tessier_lavigne_ph_d_to_leave_pfizer_board_of_directors, viewed in May 2015
- 44 Federal Reserve Bank of New York, "About the New York Fed – Governance – Board of Directors", online:
http://www.ny.frb.org/aboutthefed/org_nydirectors.html, viewed in February 2015
- 45 Roche (2015, January), *Annual report 2014*.
- 46 Roche (n.d.), "About us", online: <http://www.roche.com/about.htm>, viewed in February 2015.
- 47 Roche (2015, January), *Finance report 2014*.
- 48 Roche (n.d.), "Major shareholders", online:
http://www.roche.com/investors/financial_data/shares/major_shareholders.htm, viewed in February 2015.
- 49 *ThomsonONE Banker*, 'Tearsheet 3034097116', viewed in January 2015.
- 50 *ThomsonONE Banker*, 'Tearsheet 2955653116', viewed in January 2015.
- 51 *ThomsonONE Banker*, 'Tearsheet 3084196116', viewed in January 2015.
- 52 *Bloomberg*, "BBID:EJ0400394", viewed in February 2015;
Bloomberg, "BBID:EJ0399117", viewed in February 2015.
- 53 *ThomsonONE Banker*, 'Tearsheet 2396702006', viewed in January 2015;
Bloomberg, "BBID:EJ0952816", viewed in February 2015.
- 54 *ThomsonONE Banker*, 'Tearsheet 2677527006', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2677529006', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2677536006', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2677533006', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2677539006', viewed in January 2015;
ThomsonONE Banker, 'Tearsheet 2677538006', viewed in January 2015;
Bloomberg, "BBID:EK5102554", viewed in February 2015;
Bloomberg, "BBID:EK5088290", viewed in February 2015;
Bloomberg, "BBID:EK5088175", viewed in February 2015;
Bloomberg, "BBID:EK5088233", viewed in February 2015;
Bloomberg, "BBID:EK5087995", viewed in February 2015.
- 55 *ThomsonONE Banker*, 'Tearsheet 2695345006', viewed in January 2015;
Bloomberg, "BBID:EK6045166", viewed in January 2015.
- 56 *ThomsonONE Banker*, 'Tearsheet 2695345006', viewed in January 2015;
Bloomberg, "BBID:EK6028964", viewed in January 2015.
- 57 Roche, "About Roche – Our governance – Executive Committee", online:
http://www.roche.com/about/governance/executive_committee/executive_committee_severin-schwan.htm,
viewed in February 2015.
- 58 Credit Suisse, "About Us – Corporate Governance – Committees – Risk Committee", online:
<https://www.credit-suisse.com/es/en/about-us/governance/committee/risk.html>, viewed in February 2015
- 59 Roche, "Prof. Dr Beatrice Weder di Mauro", online:
http://www.roche.com/content/about/governance/board_of_directors/board_of_directors-weder.htm, viewed
in February 2015.
- 60 UBS (2014, November 14), "Beatrice Weder di Mauro", online:
http://www.ubs.com/global/en/about_ubs/corporate-governance/board-of-directors/cv-beatrice-wederdimaur.o.html,
viewed in February 2015.