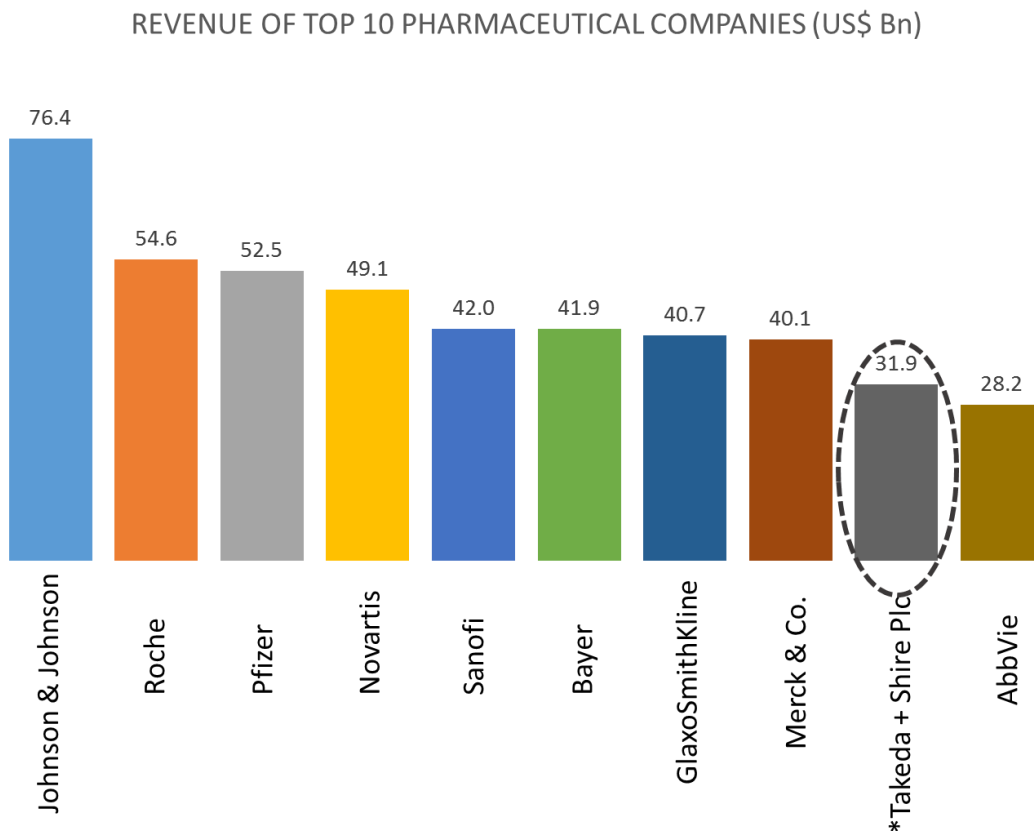


TAKEDA'S BIGGEST GAMBLE: HIGH ON HOPES THAN FACT

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Takeda announced acquisition of Shire Plc—a rare drug specialist and a long-time rival—on May 8, 2018—marking the largest bet of the year. Takeda finally cracked the deal after four unsuccessful attempts, at around US\$ 62 billion (£46 billion), which is double the market valuation of Takeda Pharmaceutical Company Ltd. This will account for the largest overseas takeover by any Japan-based company ever, with the combined entity (Takeda + Shire) enlisted among the top 10 pharmaceutical companies, globally.

Fig 1: Revenue of Top 10 Pharmaceutical Companies (US\$ Bn), 2017

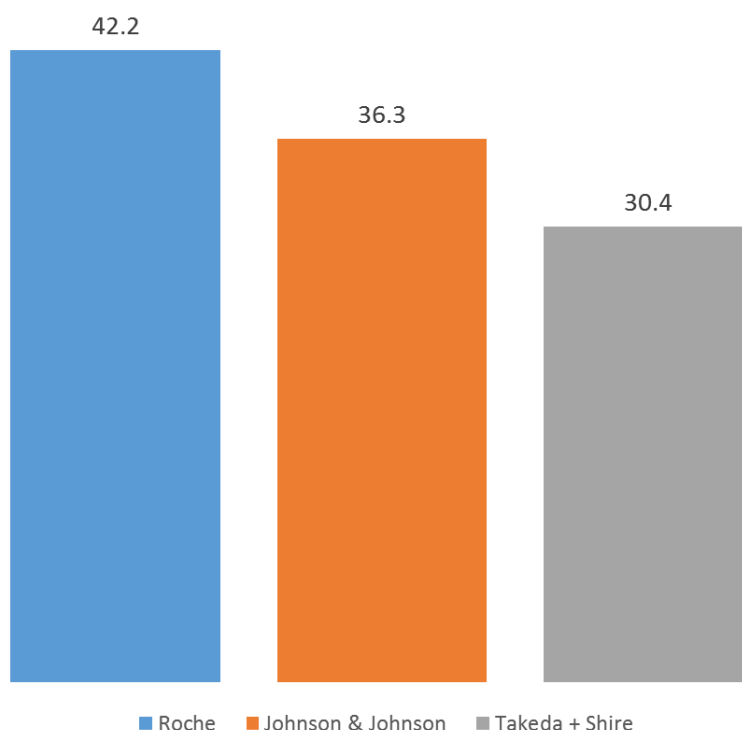


Source: 2017, Annual Reports

The above ranking is based on revenue from all the business segments (medical devices, diagnostics, and consumer goods), including pharmaceuticals. Companies such as Johnson & Johnson and F. Hoffmann-La Roche AG (Roche) witness significant revenue contribution from their medical devices, diagnostics, and consumer goods segments. Revenue generated by the pharmaceutical segment of the combined entity (US\$ 30.4 Bn) can closely be compared to that Johnson & Johnson (US\$ 36.3 Bn).

Fig 2: Revenue from Pharmaceutical Business (US\$ Bn), 2017

REVENUE FROM PHARMACEUTICAL BUSINESS (in US\$ Bn), 2017



Source: Annual Report (2017); Company’s Financial Statement (2017)

The amalgamation of these two major pharmaceutical companies through this acquisition, has enhanced the overall competitiveness of Takeda, positioning it at the forefront of executing its full potential and realizing opportunities offered by developed markets. Japan attributes to 29.6% (FY 2017-2018) of the total sales revenue of Takeda. Takeda, now being better equipped, would aim at extending its footprint, especially in North America and Europe, which are the largest pharmaceutical markets, globally.

Table 1: Comparing Takeda and Shire

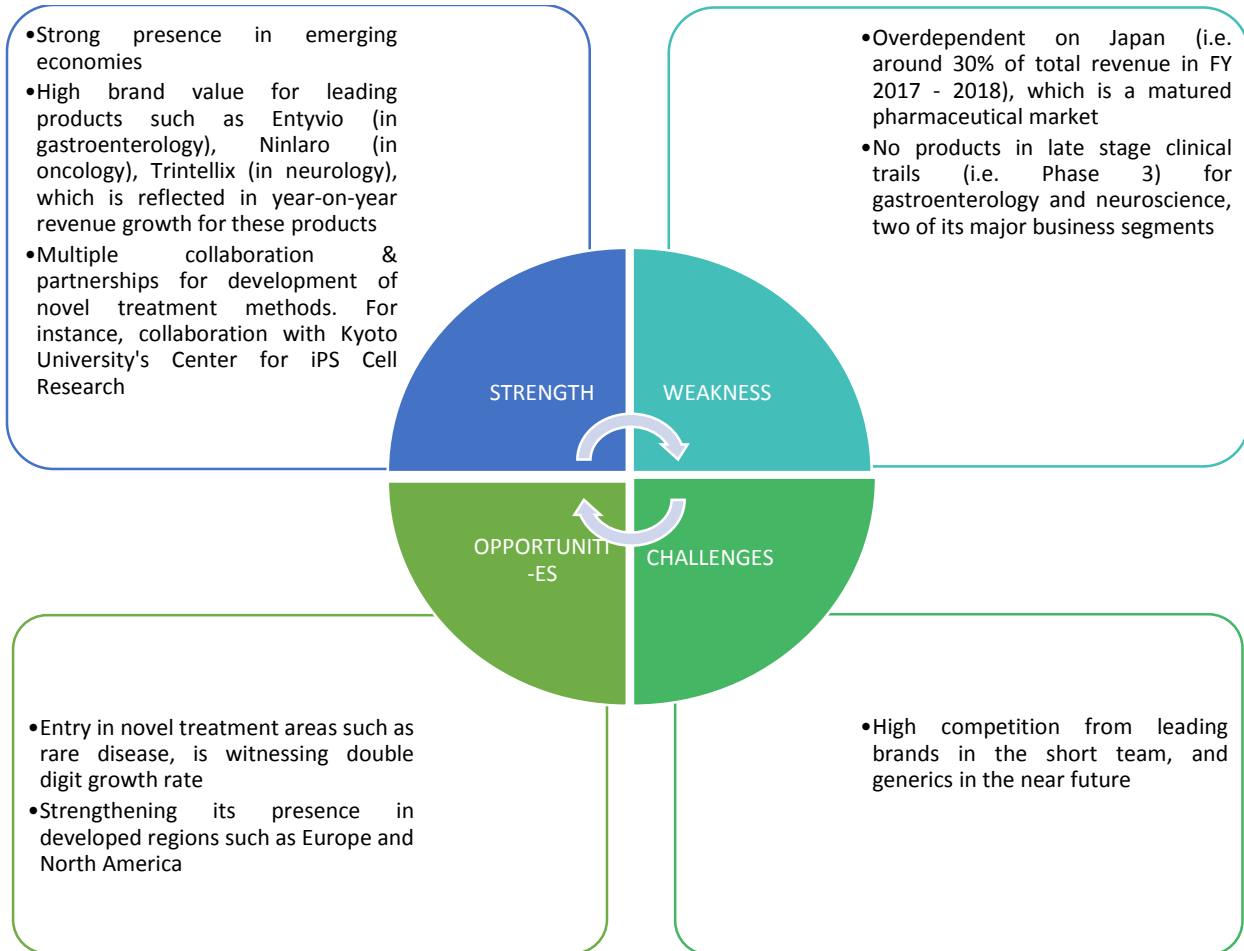
PARAMETERS	TAKEDA	SHIRE
Number of employees	30,000	23,044
Employee distribution	U.S. - 17%, Europe & Canada – 21%, Japan – 27%, Emerging Markets – 35%	North America – 57%, Europe – 36%, Asia – 5%, Latin America – 2%
Revenue	US\$ 16.7 Bn	US\$ 15.2 Bn

Acquisitions in last 5 years	TiGenix NV - 2018, ARIAD Pharmaceuticals, Inc. – 2015 Inviragen, Inc. - 2013	Baxalta Incorporated - 2016, Dyax Corp.- 2015, Foresight Biotherapeutics, Inc.- 2015, Meritage Pharma, Inc. -2015, NPS Pharmaceuticals, Inc. – 2015, Lumena Pharmaceuticals, Inc. – 2014, Fibrotech Therapeutics Pty Ltd. – 2014, ViroPharma Incorporated – 2013, SARcode Bioscience Inc. – 2013, Premacure AB - 2013
Core business area	Gastroenterology, Oncology, Neuroscience	Rare Disease, Neuroscience
Core operating region	Japan, Emerging Markets	U.S.
No. of pipeline drugs (clinical stage)	35	40

*The above data is as per their recently updated annual report

SWOC Analysis – Takeda

50+ strategic partnerships in last 2 years as of July 2017



Product Synergism & Diversification

“Shire’s highly complementary product portfolio and pipeline, as well as experienced employees, will accelerate our transformation for a stronger Takeda. Together, we will be a leader in providing targeted treatments in gastroenterology, neuroscience, oncology, rare diseases, and plasma-derived therapies” said Christophe Weber, CEO of Takeda, while highlighting the significance of this acquisition.

Gastroenterology, Neurology, and Oncology are the core therapeutic areas of Takeda Pharmaceutical Company Limited. Gastroenterology and Neurology segments are also key growth drivers for Takeda sales, according to the annual report (2016). According to 2017-2018 financial statement, the gastroenterology and neurology businesses exponentially grew by 23.5% and 24.5%, respectively.

The ***gastroenterology*** segment of the company includes leading brands such as Entyvio, Dexilant, and Amitiza, which have witnessed significant growth over the recent past. Moreover, Pantoprazole and Lansoprazole are other brands being sold through this business segment. The combined revenue of these five products exceeded US\$ 3 billion in FY 2016 - 2017, according to its annual report. In this scenario, diversification of this business segment by acquiring Shire Plc, which garnered US\$ 1.67 billion from its internal medicine segment in FY 2017, seems to be smart move. The leading product of Shire’s medical segment— Lialda/Mezavant—witnessed intense competition from its generic counterparts. This in turn, dropped sales of the product, recording negative growth of the internal medicine segment by 4.8% in FY 2017. Thus, this seemed to be a lucrative spin-off for Shire, who witnessed a massive decrease in its sales revenue of Lialda/Mezavant from US\$ 792.1 million in FY 2016 to US\$ 569.4 million in FY 2017, with 28.1% year-on-year decline. However, other products in this segment, including Gattex/Revestive and Natpara are sustaining the overall segment revenue.

Neurology business segment i.e. Central Nervous System business segment of Takeda has been exhibiting the highest growth for the company, with the segment recording 24.5% growth in FY 2017–2018. Revenue for Trintellix—an antidepressant drug and one of the leading products in this segment—increased by 51.6% in FY 2017–2018 (US\$ 434.5 Mn), according to the full year financial statement (2017-2018). Shire’s product is complementary to this segment, as both the companies sell products for different diseases. Shire’s products sold through this segment, including Adderall and Vyvanse, are indicated for the treatment of attention deficit hyperactivity

disorder (ADHD), while Takeda's products serve as antidepressants. Shire's neuroscience segment has witnessed incessant year-on-year growth, recording 13.2% in FY 2016 and 7.0% in FY 2017. Moreover, Shire received U.S. FDA approval for Mydayis, for the treatment of patients suffering from ADHD aged 13 years and older, in June 2017. The company expected high demand for ADHD drugs, due to which it speeded up the launch of this product. In due course of time, the launch gained fruition, with around 60,000 prescription written for this drug for 25,000 unique patients and by 8,000 unique prescribers, in first six months post its launch. The company claims this to be the highest number of prescription in first six months for any ADHD drug launched since 2010. High year-on-year growth rate and high performance of newly launched drug showcased neuroscience segment been highly lucrative to Takeda, which aims at establishing itself at a top position in neurology drugs market.

Oncology business segment is the major target of Takeda (as CEO of Takeda highlights in his statement). Unfortunately, the organization lost this business by very thin margin to Servier Laboratories on April 16, 2018. (Shire sold oncology business unit to Servier Laboratories on April 16, 2018). Other business units such as immunology, hematology, ophthalmic, and genetic disease may be new arena for Takeda.

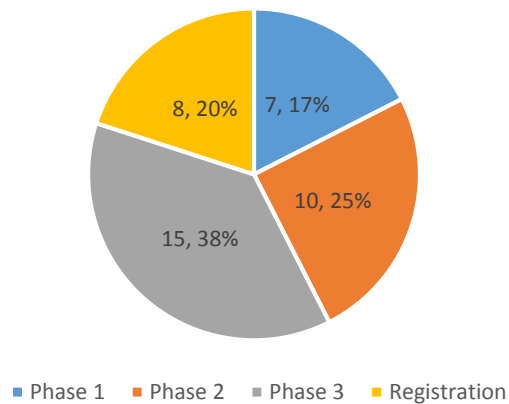
Product Pipeline

Takeda's organic growth prospects gets stronger

Shire has multiple products in pipeline for rare diseases which will help Takeda to establish itself as a strong contender in this (i.e. rare disease drugs) exponentially growing market. In 2017, Shire successfully launched 50 products and received approval for 126 products, globally. Additionally, the company has 40 programs in clinical trials, of which 23 are in late stage clinical development (i.e. Phase 3 and Registration with a focus on catering to rare diseases). This strong pipeline is one of the key reasons for its acquisition. Furthermore, the company has over 35 preclinical programs.

Fig 3: Shire's Product Pipeline, 2017

Shire's Product Pipeline (40), 2017

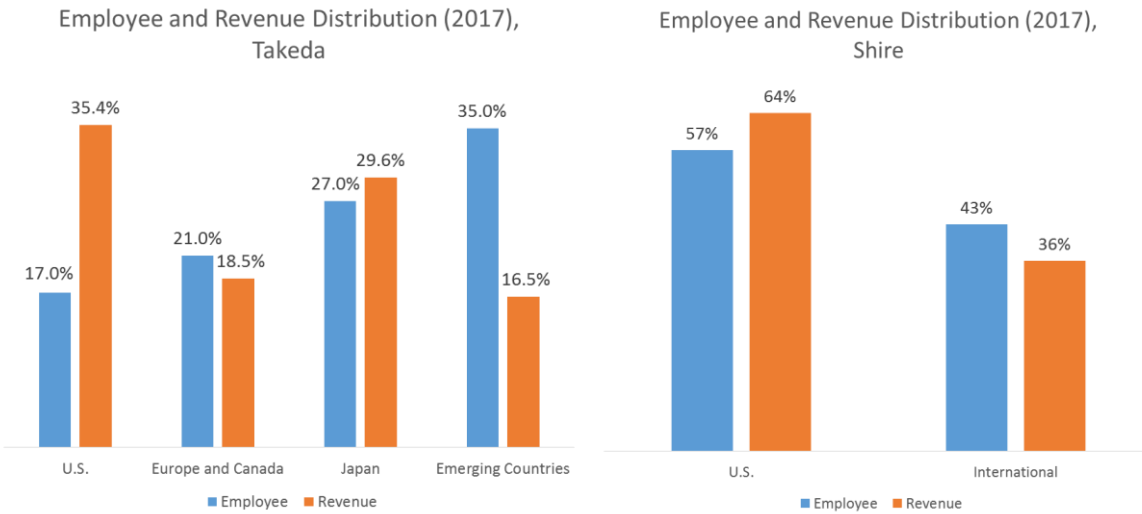


Source: Annual Report (2017)

Employee and Revenue Distribution

Takeda's market reach to expand geographically

Fig 4: Employee and Revenue Distribution for Takeda and Shire, 2017



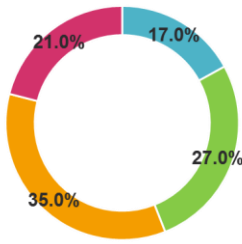
Source: Annual Report (2017), Corporate Report (2017), Financial Statement (2017)

U.S. was the major revenue-generating market for both the companies in 2017. For Takeda, share of global revenue generated from the U.S. accounted for over double the share of employees present in the country. Takeda will however, benefit from balanced distribution of employees across all regions, through the acquisition of Shire, unless a rejig is implemented.

The combined entity will hold around 35.5% of the employees in North America, which accounts for the highest revenue-generating region for each of the individual companies.

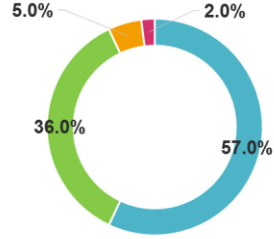
Fig 5: Estimated Employee Distribution for Combined Entity, based on 2017 Employee Data

Takeda's Employee Distribution, by Region, 2017



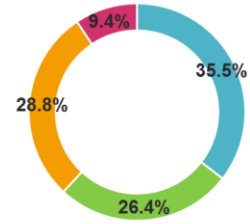
■ U.S. ■ Japan
 ■ Emerging Economies ■ Europe and Canada

Shire's Employee Distribution, by Region, 2017



■ North America ■ Europe ■ Asia ■ Latin America

Takeda + Shire's Employee Distribution, by Region, 2017*



■ North America ■ Europe ■ Asia ■ Latin America

*Estimated Employee Distribution

Deal Value

4X the revenue and 2X the Market Value of Takeda

Takeda has agreed to pay an enormous amount for this acquisition, which is around 4x times its own revenue through a '364-Day Bridge Credit Agreement' with the initial lenders including JP Morgan Chase Bank, N.A., Sumitomo Mitsui Banking Corporation and MUFG Bank, Ltd. for US\$ 30.85 Bn. With a leverage buyout of Shire, Takeda would have to aggressively capitalize on the combined entity strengths to maintain financial stability and shareholder value.

The US\$ 68.03 (£49.01) per share (April 23, 2018) for all the already issued and to be issued ordinary shares, positions Shire's value at around US\$ 62 billion (£46 billion). A company that has market capitalization of around US\$ 33 billion, agreeing to pay US\$ 62 billion is an off-the-shelf step, which demands massive funding (Takeda's revenue in 2017 was US\$ 16.7 Bn). This is reflected on its share prices, which witnessed continuous decline post the announcement of its intention to acquire Shire.

Fig 6: Share price of Takeda for the last three months



Source: Yahoo Finance

It will be interesting to watch how aggressively Takeda moves to successfully achieve the synergistic effect and maintain shareholder's value post this acquisition.

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ABOUT US

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