

COMPANY NOTE

Estimate Change

USA | Healthcare | Biotechnology

November 6, 2014

Jefferies

Minerva (NERV) 3Q14 Update - Multiple Initial Readouts in 4Q14/1Q15

Key Takeaway

Although the key Phase 2b readout for MIN-101 will be delayed by a quarter to 1H16, there will be multiple readouts from Phase 1 trials for both MIN-101 and MIN-202 expected in the next six months, including initial proof-of-concept data for MIN-202 in insomnia. This currently represents upside to our valuation.

Slight Delay To Initiation Of Phase 2b Trial For MIN-101. NERV expects to begin the 234-patient Phase 2b study in 1H15, from the prior guidance of 1Q15. As a result, the top-line results of the Phase 2b trial are expected in 1H16. Top-line results from the single-dose portion of the healthy volunteer Phase 1 trial with the once-daily formulation of MIN-101 are expected later this quarter. Multiple formulations will be tested. The second portion of the Phase 1 trial will have the QD formulation administered over seven days to observe the PK/PD of the drug. Results from this portion are expected in 1Q15. Finally, NERV will submit the Phase 2b study protocol in Europe this quarter. They are preparing to go to the FDA on filing an IND for MIN-101, and expect to have a meeting in the next few weeks. We derive the majority of our target price from MIN-101.

MIN-202 Continues To Progress. There are three ongoing Phase 1 studies of MIN-202 for the treatment of insomnia. The first study is a bioavailability study in healthy male volunteers. The purpose of the trial is to switch from a liquid formulation to an oral solid dose, with results expected this quarter. The two other Phase 1b trials are in patients with secondary insomnia due to major depressive disorder and a multiple ascending dose trial in healthy volunteers to determine safety/tolerability. Top-line results from both trials are expected in 1Q15.

Financials. The company ended the quarter with \$23.6m in cash and expects this cash will be sufficient to fund operations through the end of 2015.

Valuation/Risks

We reach our \$10 PT through a sum-of-the parts DCF of \$7.50 MIN-101 + \$1.50 MIN-117 + \$1 cash. NERV is subject to standard biotech risks including clinical, regulatory, and commercial.

| USD | Prev. | 2012A | Prev. | 2013A | Prev. | 2014E | Prev. | 2015E |
|------------|-------|--------|-------|--------|--------|---------|--------|--------|
| Rev. (MM) | -- | 0.0 | -- | 0.0 | -- | 0.0 | -- | 25.0 |
| EV/Rev | | | | | | | | 2.1x |
| EPS | | | | | | | | |
| Mar | -- | -- | -- | -- | -- | (0.43)A | -- | -- |
| Jun | -- | -- | -- | -- | -- | (2.32)A | -- | -- |
| Sep | -- | -- | -- | -- | (1.57) | (1.53)A | -- | -- |
| Dec | -- | -- | -- | -- | (0.55) | (0.53) | -- | -- |
| FY Dec | -- | (0.47) | -- | (0.63) | (4.64) | (4.55) | (2.25) | (2.19) |
| FY P/E | | NM | | NM | | NM | | NM |

BUY

Price target \$10.00

Price \$4.28

Financial Summary

| | |
|----------------------|----------|
| Net Debt (MM): | (\$23.6) |
| Long-Term Debt (MM): | \$0.0 |

Market Data

| | |
|---------------------------|-----------------|
| 52 Week Range: | \$7.90 - \$4.10 |
| Total Entprs. Value (MM): | \$52.6 |
| Market Cap. (MM): | \$76.2 |
| Insider Ownership: | NA |
| Institutional Ownership: | NA |
| Shares Out. (MM): | 17.8 |
| Float (MM): | 4.1 |
| Avg. Daily Vol.: | 31,319 |

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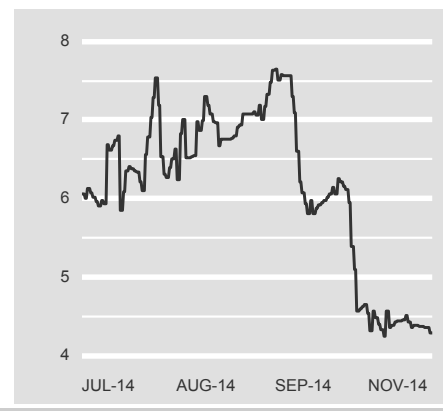
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Price Performance



NERV: Historical and Projected Revenue and Earnings

| December 31 Fiscal Year (\$000s, except per share) | 2012A | 2013A | 1Q14A | 2Q14A | 3Q14A | 4Q14E | 2014E | 2015E | 2016E | 2017E | 2018E | 2019E | 2020E | 2021E | 2022E |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------------|-----------|---------------|----------------|----------------|----------------|----------------|----------------|
| MN-101 Sales | - | - | - | - | - | - | - | - | - | - | - | 15,479 | 221,239 | 751,234 | 1,589,771 |
| U.S. | - | - | - | - | - | - | - | - | - | - | - | 11,150 | 161,607 | 550,462 | 1,173,029 |
| EU | - | - | - | - | - | - | - | - | - | - | - | 4,328 | 58,550 | 186,135 | 370,208 |
| ROW | - | - | - | - | - | - | - | - | - | - | - | - | 1,082 | 14,637 | 46,534 |
| U.S. Royalties to Mnerva | - | - | - | - | - | - | - | - | - | - | - | 2,676 | 38,786 | 136,129 | 317,369 |
| ROW Royalties to Mnerva | - | - | - | - | - | - | - | - | - | - | - | 1,039 | 14,312 | 48,185 | 100,018 |
| MN-117 Sales | - | - | - | - | - | - | - | - | - | - | - | - | 189,406 | 629,527 | 1,278,142 |
| U.S. | - | - | - | - | - | - | - | - | - | - | - | - | 189,406 | 512,823 | 943,290 |
| ROW | - | - | - | - | - | - | - | - | - | - | - | - | - | 116,704 | 334,852 |
| U.S. Royalties to Mnerva | - | - | - | - | - | - | - | - | - | - | - | - | 17,047 | 46,667 | 102,628 |
| ROW Royalties to Mnerva | - | - | - | - | - | - | - | - | - | - | - | - | - | 8,169 | 23,440 |
| Total Royalties | - | - | - | - | - | - | - | - | - | - | - | 3,715 | 70,144 | 239,151 | 543,455 |
| Milestones | - | - | - | - | - | - | - | 25,000 | - | 15,000 | 100,000 | 175,000 | 150,000 | 100,000 | 100,000 |
| Other | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Revenue | - | - | - | - | - | - | - | 25,000 | - | 15,000 | 100,000 | 178,715 | 220,144 | 339,151 | 643,455 |
| Payments to Mitsubishi | - | - | - | - | - | - | - | 2,500 | - | 1,500 | 10,000 | 19,601 | 45,983 | 113,217 | 232,230 |
| R&D | 550 | 501 | 485 | 1,589 | 24,638 | 5,000 | 31,712 | 32,000 | 45,000 | 50,000 | 40,000 | 55,000 | 75,000 | 100,000 | 125,000 |
| SG&A | 443 | 1,799 | 1,836 | 1,547 | 1,613 | 3,000 | 7,996 | 9,595 | 10,747 | 12,036 | 13,481 | 15,098 | 16,910 | 18,939 | 21,212 |
| Income from Operations | (993) | (2,300) | (2,321) | (3,136) | (26,251) | (8,000) | (39,708) | (19,095) | (55,747) | (48,536) | 36,519 | 89,015 | 82,251 | 106,995 | 265,012 |
| Other Income | 0 | 2 | - | 10 | 11 | 24 | 45 | 260 | 133 | 262 | 610 | 1,277 | 2,131 | 2,923 | 3,776 |
| Other Expenses | (1) | (89) | (315) | - | (15) | (650) | (980) | (2,600) | (2,600) | (2,600) | - | - | - | - | - |
| Pre-Tax Income | (994) | (2,387) | (2,636) | (3,126) | (26,255) | (8,626) | (40,643) | (21,435) | (58,214) | (50,874) | 37,130 | 90,293 | 84,381 | 109,917 | 268,788 |
| Tax Expense | - | - | - | - | - | - | - | - | - | - | 13,738 | 33,408 | 31,221 | 40,669 | 99,452 |
| Tax Rate | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | 37% | 37% | 37% | 37% | 37% |
| Net Income | (994) | (2,387) | (2,636) | (3,126) | (26,255) | (8,626) | (40,643) | (21,435) | (58,214) | (50,874) | 23,392 | 56,884 | 53,160 | 69,248 | 169,337 |
| Diluted shares outstanding | 3,381 | 4,838 | 6,903 | 7,605 | 17,752 | 17,952 | 12,553 | 18,439 | 21,939 | 30,539 | 36,287 | 36,716 | 37,140 | 37,565 | 37,994 |
| Net Loss per share | \$ (0.29) | \$ (0.49) | \$ (0.38) | \$ (0.41) | \$ (1.48) | \$ (0.48) | \$ (3.24) | \$ (1.16) | \$ (2.65) | \$ (1.67) | \$ 0.64 | \$ 1.55 | \$ 1.43 | \$ 1.84 | \$ 4.46 |
| Options Expense | 588 | 656 | 302 | 14,514 | 900 | 800 | 16,516 | 18,993 | 21,843 | 25,119 | 28,887 | 33,220 | 38,203 | 43,933 | 50,523 |
| EPS with Options Expense | \$ (0.47) | \$ (0.63) | \$ (0.43) | \$ (2.32) | \$ (1.53) | \$ (0.53) | \$ (4.55) | \$ (2.19) | \$ (3.65) | \$ (2.49) | \$ (0.15) | \$ 0.64 | \$ 0.40 | \$ 0.67 | \$ 3.13 |

Source: Company data, Jefferies Group LLC estimate
November 6, 2014

NERV: Historical and Projected Changes in Financial Position

| December 31 Fiscal Year (\$000s) | 2012A | 2013A | 2014E | 2015E | 2016E | 2017E | 2018E | 2019E | 2020E | 2021E | 2022E |
|--|------------|--------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|
| Cash flows from operating activities | | | | | | | | | | | |
| Net loss | (994) | (2,387) | (40,643) | (21,435) | (58,214) | (50,874) | 23,392 | 56,884 | 53,160 | 69,248 | 169,337 |
| Adjustments to reconcile used in operating activities: | | | | | | | | | | | |
| NOL Utilization | - | - | - | - | - | - | 13,738 | 33,408 | 31,221 | 40,669 | - |
| Amortization of debt discount recorded as interest expense | - | 36 | - | - | - | - | - | - | - | - | - |
| Change in fair value of derivative | - | 0 | - | - | - | - | - | - | - | - | - |
| Unrealized foreign exchange loss | - | 20 | - | - | - | - | - | - | - | - | - |
| Interest expense | - | 23 | - | - | - | - | - | - | - | - | - |
| Changes in operating assets and liabilities | | | | | | | | | | | |
| Accounts receivable | | | - | - | - | - | - | - | (11,837) | (34,002) | (86,944) |
| Prepaid expenses | 25 | (6) | - | - | - | - | - | - | - | - | - |
| Accounts payable | - | 538 | - | - | - | - | - | - | - | - | - |
| Accrued expenses and other liabilities | 59 | (383) | (700) | - | - | - | - | - | - | - | - |
| Net cash used in operating activities | (909) | (2,159) | (41,343) | (21,435) | (58,214) | (50,874) | 37,130 | 90,293 | 72,544 | 75,916 | 82,393 |
| Cash flows from investing activities: | | | | | | | | | | | |
| Equipment purchases | - | (3) | (5) | (10) | (20) | (20) | (20) | (20) | (20) | (20) | (20) |
| Cash acquired in business acquisition | - | 631 | 1,168 | - | - | - | - | - | - | - | - |
| Net cash provided by investing activities | - | 628 | 1,163 | (10) | (20) | (20) | (20) | (20) | (20) | (20) | (20) |
| Cash flows from financing activities | | | | | | | | | | | |
| Proceeds from issuance of convertible promissory notes | - | 1,300 | - | - | - | - | - | - | - | - | - |
| Proceeds from options exercises | | | 5,096 | - | - | 1,898 | 2,610 | 3,445 | 4,421 | 5,558 | 6,878 |
| Proceeds from follow on offerings | 900 | 1,850 | 31,672 | - | 54,285 | 98,836 | - | - | - | - | - |
| Debt issuance/repayment | | | 18,600 | - | - | (20,000) | - | - | - | - | - |
| Stock issuance costs | - | - | 19,700 | - | - | - | - | - | - | - | - |
| Net cash provided by financing activities | 900 | 3,150 | 75,068 | - | 54,285 | 80,734 | 2,610 | 3,445 | 4,421 | 5,558 | 6,878 |
| Net (decrease) increase in cash and cash equivalents | (9) | 1,619 | 34,888 | (21,445) | (3,949) | 29,840 | 39,719 | 93,718 | 76,945 | 81,453 | 89,250 |
| Beginning of period | 209 | 200 | 1,818 | 36,706 | 15,261 | 11,312 | 41,152 | 80,871 | 174,588 | 251,534 | 332,987 |
| End of period | 200 | 1,818 | 36,706 | 15,261 | 11,312 | 41,152 | 80,871 | 174,588 | 251,534 | 332,987 | 422,237 |

Source: Company data, Jefferies Group LLC estimate
November 6, 2014

NERV: Historical Condensed Balance Sheets

| (000s) | 12/31/2013 | 3/31/2013 | 6/30/2014 | 9/30/2014 |
|---|---------------|---------------|---------------|---------------|
| Assets | | | | |
| Cash and cash equivalents | 1,818 | 2,141 | 480 | 23,640 |
| Prepaid expenses | 1 | 46 | 33 | 584 |
| Total current assets | 1,819 | 2,187 | 513 | 24,224 |
| Equipment | 3 | 31 | 27 | 35 |
| In-process research and development | 19,000 | 34,200 | 34,200 | 34,200 |
| Goodwill | 7,918 | 15,104 | 15,104 | 14,869 |
| Deferred public offering costs | 434 | - | 3,112 | - |
| Other assets | - | 1,615 | - | - |
| Total assets | 29,175 | 53,138 | 52,956 | 73,328 |
| Liabilities | | | | |
| Accounts payable, accrued expenses, and other current liabilities | 1,348 | 5,052 | 8,046 | 3,179 |
| Convertible promissory notes | 58 | 333 | 2,007 | - |
| Total current liabilities | 1,407 | 5,384 | 10,053 | 3,179 |
| Deferred tax liability | 7,589 | 13,669 | 13,669 | 13,434 |
| Total liabilities | 8,995 | 19,053 | 23,722 | 16,613 |
| Stockholders' equity | 20,180 | 34,085 | 29,235 | 56,715 |
| Total liabilities and stockholders' equity | 29,175 | 53,138 | 52,956 | 73,328 |

Source: Company Reports, Jefferies Group LLC

November 6, 2014

Company Description

Minerva is focused on developing neuropsychiatry drugs. Minerva's lead product candidate, MIN-101, is a 5-HT2A/Sigma2 antagonist in Phase 2 development for the treatment of schizophrenia. MIN-101 is thought to be differentiated from conventional antipsychotics as it was developed to be effective against negative symptoms. NERV is also developing MIN-117, an antagonist of 5-HT1A and 5-HTT receptors and both serotonin and dopamine, for major depressive disorder (MDD). NERV believes MIN-117 could be differentiated by fast onset of action and potential to treat patients that have failed previous lines of antidepressants. NERV has two other products in early Phase 1 or preclinical development: MIN-202, an orexin-2 antagonist for primary and secondary insomnia, and MIN-301, an ErbB4 activator for Parkinson's disease.

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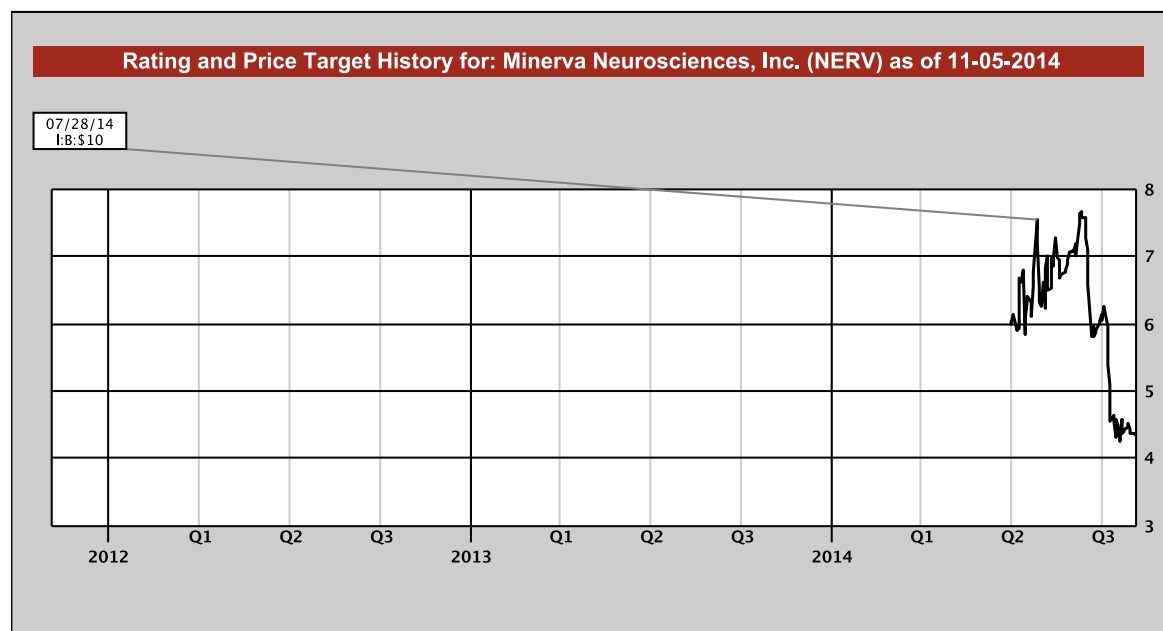
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| Rating | Count | Percent | IB Serv./Past 12 Mos. | |
|--------------|-------|---------|-----------------------|---------|
| | | | Count | Percent |
| BUY | 1010 | 52.12% | 264 | 26.14% |
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