KEVIN P. MUCK (CSB No. 120918)
kmuck@fenwick.com
DEAN S. KRISTY (CSB No. 157646)
dkristy@fenwick.com
MARIE C. BAFUS (CSB No. 258417)
mbafus@fenwick.com
NAIR DIANA CHANG (CSB No. 287624)
dchang@fenwick.com
Fenwick & West LLP
555 California Street, 12th Floor
San Francisco, California 94104
Telephone: (415) 875-2300
Facsimile: (415) 281-1350

Attorneys for Defendants
King Digital Entertainment PLC,
Hope Cochran, Robert S. Cohn and
E. Stanton McKee

ELECTRONICALLY
**FILED**
*Superior Court of California, County of San Francisco*
**12/28/2016**
**Clerk of the Court**
BY: ANNA TORRES
Deputy Clerk

FENWICK & WEST LLP
ATTORNEYS AT LAW
SAN FRANCISCO

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SAN FRANCISCO

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|---|---|
| IN RE KING DIGITAL ENTERTAINMENT plc SHAREHOLDER LITIGATION | Lead Case No. CGC-15-544770 |
| | CLASS ACTION |
| This Document Relates To: ALL ACTIONS | **DECLARATION OF ALEXANDER AGANIN IN SUPPORT OF MOTION TO APPROVE SETTLEMENT** |
| | Date: January 12, 2017<br>Time: 4:00 p.m.<br>Dept: 304<br>Judge: The Honorable Curtis E.A. Karnow |
| | Action Filed: March 17, 2015 |

I, Alexander Aganin, Ph.D., declare as follows:

1. I am a Vice President of Cornerstone Research ("Cornerstone"), a firm that specializes in providing expert economic and financial analysis in connection with litigation and regulatory proceedings. I have personal knowledge of the matters set forth in this declaration and, if called upon, could testify competently to those matters.

2. I obtained an undergraduate degree in Applied Mathematics and Mechanics from Moscow State University in Moscow, Russia, a master's degree in Economics from the New Economics School in Moscow, and a master's degree and Ph.D. in Economics from Harvard University.

3. I joined Cornerstone in 2000, and have been with the firm continuously since that time. I provide expert consulting and testimony on complex financial issues arising in securities litigation, bankruptcy disputes, and antitrust matters. Among my particular areas of focus are assessment and analysis of economic losses, damages, market efficiency and loss causation issues in shareholder class actions. Attached as Exhibit 1 is a copy of my current curriculum vitae, which accurately describes my professional and educational experience and summarizes matters in which I have provided expert consulting and testimony.

4. In 2015, Cornerstone was retained by Fenwick & West LLP ("Fenwick"), counsel for defendants King Digital Entertainment PLC ("King"), Hope Cochran, Robert S. Cohn and E. Stanton McKee in this action, to provide expert consulting services in connection with damage and causation issues. I was responsible for overseeing Cornerstone's work in that regard.

5. As part of Cornerstone's work for Fenwick, I analyzed and estimated potential damages that could be asserted under Section 11 of the Securities Act of 1933 on behalf of the plaintiff class in this action. The plaintiff class (as certified by the Court) consisted of those persons and entities who purchased King ordinary shares between March 26, 2014 and September 22, 2014 and who sold those shares at a loss (with the defendants and certain people affiliated with the defendants excluded). Estimating the damages potentially recoverable on behalf of such a class, and analyzing associated causation issues, are tasks that Cornerstone routinely undertakes on behalf of litigants in shareholder class actions.

6. In undertaking my damage analysis, I examined (among other things) the following data and information:

- The Second Amended Consolidated Class Action Complaint (SACC) in this action;
- The Court's order certifying the Section 11 class in this action;
- Daily trading information (*i.e.*, closing stock prices and volume) for King stock on each trading day between March 26, 2014 (the date of the Company's IPO) and February 22, 2016 (when the acquisition of the Company by affiliates of Activision Blizzard, Inc. was finalized and King shares ceased trading on the New York Stock Exchange);
- Reports by securities analysts (*e.g.*, Bank of America Merrill Lynch, Deutsche Bank, Piper Jaffray, Barclays, Credit Suisse, JP Morgan, Cowen, Stifel, Pacific Crest, among others) that followed King during the time that its shares were publicly traded on the New York Stock Exchange;
- King's SEC filings and other public disclosures, including quarterly earnings releases;
- Data regarding institutional investors that held King shares;
- News and media reports regarding King.

7. I understand that damages available under Section 11 are defined by the statute itself. Specifically, Section 11(e) provides, in pertinent part, that damages:

> shall represent the difference between the amount paid for the security (not exceeding the price at which the security was offered to the public) and (1) the value thereof as of the time such suit was brought, or (2) the price at which such security shall have been disposed of in the market before suit, or (3) the price at which such security shall have been disposed of after suit but before judgment if such damages shall be less than the damages representing the difference between the amount paid for the security (not exceeding the price at which the security was offered to the public) and the value thereof as of the time such suit was brought . . . .

8. Section 11(e) further provides that damages are not recoverable if it is established that the decline in the value of the subject security was caused by factors other than the alleged misstatements underlying plaintiffs' claim. In other words, plaintiffs cannot recover damages to the extent that a decline in King's stock price was not caused by a corrective disclosure of facts purportedly misstated in, or omitted from, the IPO Registration Statement.

9. Thus, in estimating potential damages under Section 11, it is necessary not only to quantify total trading losses sustained by class members (based on assumptions, statistical models

and algorithms developed by economists and accepted by courts in class actions under the federal securities laws), but also to determine what portions of those losses are attributable to the specific facts allegedly misrepresented in, or omitted from, the registration statement at issue.

10. Here, I understand that plaintiffs' SACC indicates that the Section 11 claim was based on three alleged omissions in King's IPO Registration Statement: (i) the portion of total bookings attributable to King's most successful game, Candy Crush Saga ("Candy Crush"), would decline from 78% in the fourth quarter of 2013 to 67% in the first quarter of 2014; (ii) the decline in monthly unique payers (MUPs) disclosed in the Registration Statement would continue after the IPO; and (iii) some King users had free "lives" donated by Facebook friends deleted from their accounts. *See* SACC ¶¶ 36-54.

11. To quantify and analyze potential damages, I began by preparing an "event study" of King stock throughout the period March 26, 2014 through March 16, 2015, the date of filing of the first complaint with Section 11 allegations in this matter ("Relevant Period"). I did not analyze stock price changes after March 16, 2015 because statutory damages under Section 11 cannot be greater than the difference between the purchase price of the stock (not exceeding the IPO price of $22.50 per share) and the value of the stock as of the time the suit was brought, as explained above.

12. An event study is a widely accepted statistical method for determining whether security returns on event days are statistically unusual, or significant, after accounting for market and industry movements. Event studies have multiple uses in financial economics. When applied to questions of loss causation and damages in securities cases, event studies help determine whether new information had a discernible effect on security prices. Economists focus on new information because, in an efficient market, previously-disclosed information has already been incorporated into the price of the security, and repetition of what has already been publicly furnished will not cause the stock price to move further. In this case (as in other securities class actions), I used linear regression to account for industry and market movements on price changes in King shares, and thus isolate the portion of any price change that might be attributable to the disclosure of new company-specific information. The price change on a particular day that

remains after accounting for industry-wide or market-wide events is referred to as the "residual" price change. Here, as in other cases, I used standard statistical tests to evaluate the residual price change for each trading day during the Relevant Period.

13. Based on my analysis, I concluded that there were only five trading days during the Relevant Period where King's stock price reflected a statistically significant negative residual price change (*i.e.*, a drop in price that appeared to be attributable to new company-specific information, as opposed to drops that could be accounted for by other factors such as macroeconomic factors, industry dynamics, or normal price volatility). Of those five days with statistically significant negative residual price changes, only two coincided with disclosures of purportedly omitted facts alleged by plaintiffs in the SACC: May 7, 2014 (following King's announcement of its financial results for the first quarter of 2014) and August 13, 2014 (following the Company's release of its results for the second quarter of 2014). Hence, any alleged losses on other dates would not be compensable as damages under Section 11, because (by definition) those losses would not be attributable to disclosure of new material corrective information.

14. In the May 7, 2014 earnings release, King reported increases in gross bookings, revenues, daily active users, monthly active users, and monthly unique users. Not all news was positive. For example, according to Bank of America Merrill Lynch analysts, gross bookings from King's Farm Heroes product were lower than expected and a sequel game to Candy Crush was scheduled to launch later than analyst expectations. The Company also disclosed that Candy Crush accounted for 67% of its overall bookings (down from 78% in the prior quarter), and that MUPs had declined from 12.2 million to 11.9 million. Although analyst reports at the time indicate that much of this information was expected (*i.e.*, it was not "new" information revealing previously undisclosed facts), I estimated that even if the full residual drop on that day ($2.54 per share, after accounting for market and industry movements) was compensable, and even if it is assumed for the sake of argument that plaintiffs could prove liability (which I understand is disputed by defendants), the class would have alleged damages of approximately $53 million under Section 11, under plaintiff-friendly assumptions, employing a model commonly used by plaintiffs to estimate when shares were purchased and sold. Moreover, because (as noted) some

of the information disclosed on May 7, 2014 does not appear to be related to the omissions alleged in the SACC, the actual damage figure could be less than that amount.

15. Based on my analysis, I concluded that the statistically significant stock price drop on August 13, 2014 was not attributable to disclosure of any facts that plaintiffs allege were omitted from the IPO Registration Statement, because the market price of King's stock had already reflected updated expectations about Candy Crash based on the May 7, 2014 earnings release and subsequent analyst and news commentary. The stock price decline on August 13, 2014 was due to realization of disclosed risks. The price drop was principally due to the fact that, on August 12, King had revised its guidance (*i.e.*, its estimates of future financial results) going forward – which is not surprising, because it is well established as a matter of economics and finance that the trading price of a corporation's shares is based largely on expected future cash flows. Thus, in my view, there were no Section 11 damages arising from King's August 12, 2014 earnings release or the price drop that occurred on the following day.

16. Finally, I concluded that there are no damages available to the class based on the alleged "deleted lives" issue. I understand that plaintiffs allege King's stock price declined "over 5%" when this issue was supposedly disclosed on March 2, 2015, by virtue of a lawsuit being filed in Illinois that day. *See* SACC ¶ 53. Although King's stock price did decline approximately 5% from its closing price on Friday, February 27, 2015 ($15.79) to Monday, March 2, 2015 ($15.02), my analysis revealed that this decline had nothing to do with disclosure of the so-called "deleted lives" issue. First, there is no evidence that the market was aware of the Illinois lawsuit prior to the close of trading on March 2, 2015. Second, the March 2, 2015 price decline was actually attributable to another factor: the effect of King's $300 million special dividend to all shareholders. As announced in February 2015, that dividend of $0.94 per share was payable to shareholders of record on March 4, 2015. Given the settlement period for trades, the stock went "ex-dividend" on March 2, 2015, because purchasers starting on that date would not be stockholders of record by March 4, 2015 (when King would have $300 million less cash) and would not receive the dividend payment. In other words, the stock was more valuable before March 2, 2015, because holders prior to that date had the right to receive $0.94 per share in cash –

something that was not true of people who held the stock on or after March 2, 2015. My analysis revealed that the dividend-adjusted stock return on March 2, 2015 was actually a positive 1.08% (*i.e.*, taking the ex-dividend factor into account, the value actually increased), and the residual return on that date (-0.02%) was not statistically significant.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on December 14, 2016 at Menlo Park, California.

Alexander Aganin, Ph.D.

FENWICK & WEST LLP
ATTORNEYS AT LAW
MOUNTAIN VIEW

# Exhibit 1

# ALEXANDER AGANIN, Ph.D.
## Vice President

**Cornerstone Research**
1000 El Camino Real • Menlo Park, CA 94025
650.470.7195 • fax 650.324.9204
aaganin@cornerstone.com


## PROFESSIONAL EXPERIENCE

2000 – Present **Cornerstone Research, Inc.** Menlo Park, California

*Vice President*

Provide consulting support and testimony on complex financial issues arising in securities litigation, bankruptcy disputes, and antitrust matters related to financial markets and institutions. Apply sophisticated risk analysis and modeling techniques to securities and investment strategies. Assess economic losses, loss causation and valuation for companies and investors across all classes of financial instruments and in a wide range of industries, including private equity, asset management, software and communications equipment, media and telecommunications, pharmaceuticals, biotechnology, broker-dealers, banking, real estate, insurance, oil and gas, alternative energy, publishing, retail, food, chemicals, healthcare, and transportation. Consult in all aspects of the litigation process, including deposition and trial. Manage large teams working with multiple experts. Assist clients with economic and statistical analyses in a variety of internal investigation matters. Coauthor publications related to securities class action filings.

**Examples of Case Experience Include:**

Securities

- Testified on economic issues at class certification in a securities class action
- Testified on loss causation and damages in a securities class action
- Analyzed materiality, loss causation and damages in securities cases involving stocks, bonds, mutual funds, and mortgage-backed and asset-backed securities
- Addressed materiality and damages issues in several mutual fund market timing and stock option backdating matters
- Analyzed markets for auction-rate securities before and after the marketwide events of February 2008
- Investigated market efficiency of stocks and bonds
- Analyzed comovement of prices of securities traded in multiple markets
- Assessed possible manipulation of markets for futures contracts and securities of individual issuers
- Analyzed the market impact of short sales
- Investigated possible insider trading in various settings

Notable cases include: *Bell et al. v. Ascendant Solutions, Inc., et al.*; *In re Superior Offshore International Inc. Securities Litigation*; *SEC v. Mozilo, Sambol, and Sieracki*; *IPO Allocation* matters; *In re AOL Time Warner Inc. Securities Litigation*; *In re Vivendi Universal, S.A. Securities Litigation*

## PROFESSIONAL EXPERIENCE (CONT.)

### Risk Analysis/Modeling

- Analyzed hedging by counterparties to total return swap contracts
- Analyzed sensitivity of values of asset-backed securities to interest rates
- Valued cash flows from management of pension fund assets using Monte Carlo techniques
- Evaluated profitability and risk of investment strategies of hedge funds and private equity funds
- Summarized risk characteristics of a portfolio of derivative securities
- Assessed risk characteristics of reference obligations in a credit default swap
- Analyzed profits and risks of municipal derivatives contracts written by an investment bank

Notable cases include: successful trial in *CSX v. TCI et al.*

### Private Equity and Hedge Funds

- Developed deep understanding of the economics of private equity and hedge funds, including investment and financing strategies, competition, structure of funds, drivers of value, and compensation issues
- Valued a venture capital management company
- Analyzed investment and exit strategies, performance and valuation of portfolio companies of a venture capital fund
- Evaluated profitability and risk of investment strategies of hedge funds
- Valued a company in the context of a post-leveraged buyout dispute
- Addressed damages in a lawsuit by trustees of a failed fund of hedge funds against a third party

Notable cases include: *Allergan Inc et al v. Valeant Pharmaceuticals International Inc et al*

### Finance/Antitrust Matters

- Addressed issues related to market structure, competition, class certification, and damages in municipal derivatives antitrust investigations; *In re Initial Public Offering Securities Litigation*; as well as in private equity, LIBOR, foreign exchange, and U.S. treasuries antitrust matters.
- Assisted counsel in internal investigations of trading in a variety of dealership markets.

## PROFESSIONAL EXPERIENCE (CONT.)

### Asset Management

- Calculated the impact of an error in an algorithmic trading strategy with a discretionary decision overlay on customer accounts
- Analyzed fair value pricing of illiquid bonds by an asset management company
- Investigated consistency of regulatory reporting of data by a broker-dealer and by an asset management company
- Calculated the impact of an error in valuation of illiquid bonds on account holders of a mutual fund complex
- Examined the effects of short selling restrictions on mutual fund performance
- Addressed damages in several mutual fund matters

### Bankruptcy and Financial Distress

- Testified on damages in a bankruptcy matter
- Assessed solvency, capital adequacy, ability to pay debt, and value exchanged in fraudulent transfer matters
- Analyzed economic losses in "deepening insolvency" and other bankruptcy-related matters
- Addressed a false advertizing claim regarding economic impact of bankruptcy filing on the business of a large company
- Addressed damages issues in an auditor liability matter arising from auditor's refusal to certify financial statements

Notable cases include: successful trial in *Unsecured Creditors of Iridium v. Motorola, Inc.*

### Breach of Fiduciary Duty

- Analyzed proxy disclosures and valuation of target companies in M&A matters
- Performed economic analysis of bargaining positions and transaction terms in a breach of fiduciary duty matter
- Analyzed allegations that an investment advisor failed to force his client to hedge a large concentrated position in founder stock
- Addressed damages issues in a breach of fiduciary duty litigation against main shareholders of a large technology company

## PROFESSIONAL EXPERIENCE (CONT.)

1997 – 1999 **Harvard University** Cambridge, Massachusetts
*Teaching Fellow*
Taught weekly sections and managed other teaching fellows in undergraduate Corporate Finance and Capital Markets courses.

1996 – 1998 **National Bureau of Economic Research** Cambridge, Massachusetts
*Research Assistant to Prof. A. Shleifer*
Collected and analyzed data for projects "Agency Problems and Dividend Policies around the World," "Corporate Ownership around the World," and "Restructuring of Russian Privatized Companies." Conducted extensive library research and sophisticated econometric analysis. First two papers are published in the *Journal of Finance*.

1995 **Harvard Institute for International Development** Cambridge, Massachusetts
*Research Assistant in the project "Regulating Security Markets in Russia"*
Arranged and conducted interviews and reported findings for the survey of forty-three major brokerage houses operating on the Russian Securities Market.

1993 – 1995 **New Economic School** Moscow, Russia
Taught weekly sections in graduate Advanced Econometrics, Uncertainty and Information, and International Trade.

## ACADEMIC BACKGROUND

1995 – 2000 **Harvard University** Cambridge, Massachusetts
*M.A., Ph.D., Economics*
Concentration: Finance and Contract Theory
Dissertation focused on corporate governance, dividend policies, and firm values in Europe.

1993 – 1995 **New Economic School** Moscow, Russia
*M.A., Economics*

1987 – 1995 **Moscow State University** Moscow, Russia
*Diploma (M.Sc.), A.B.D., Applied Mathematics and Mechanics*

## ACADEMIC PUBLICATIONS AND WORKING PAPERS

"The History of Corporate Ownership in Italy," with Paolo Volpin, in Randall Morck (ed.), *The History of Corporate Ownership*, University of Chicago Press, 2005. Presented at the NBER/ U. of Alberta joint conference on the "History of Corporate Ownership: The Rise and Fall of Great Business Families," Lake Louise, Canada, June, 2003; and the CEPR/ECGI/INSEAD/NBER/U. of Alberta joint conference on "The Evolution of Corporate Governance and Family Firms," Fontainebleau, France, January, 2004.

"The 'Substitute' Hypothesis of Dividend Policies, Valuation and Equity Financing of Traded Pyramids" (Harvard mimeo, 2000).

"On the Origin and Evolution of Pyramidal Groups: an Empirical Evaluation," with Paolo Volpin (Harvard mimeo, 2000).

"Managerial Entrenchment as the Cost of Insider Privatization" (Harvard mimeo, 1997). Presented at the MIT/Russian School of Economics joint conference on the "Microeconomic Aspects of Transition: Regulations and Industrial Organization," St. Petersburg, Russia, July 1997.

"Centralization and Causality in Empirical Growth Theory," Masters Thesis, New Economic School, 1995.

"On Stabilization of Symmetrical Sun Satellite by Sunlight's Pressure," Vestnik of Moscow State University, 1992, # 5.

## OTHER PUBLICATIONS

Annual and semiannual reports on securities class action filings by Cornerstone Research, 2001-present.

"Questioning the Deepening Insolvency Theory," with Ken Herzinger, *TheDeal.com*, May 2012.

"Assessing Securities Class Action Information from Securities Class Action Filings – 2012 Year in Review," interview with *The Metropolitan Corporate Counsel*, February 2013.

"How a Damages Expert Can Stumble Over the Balance Sheet," ABA Section of Litigation, Bankruptcy & Insolvency Litigation Newsletter, Spring 2013, Vol. 18, No. 3.

"The Puzzle and Promise of Bitcoin," with Julia Brighton, George Gigounas, Victoria Lazear and Isabelle Ord, ABA Section of Litigation, Securities Litigation Newsletter, Winter 2014, Vol. 24, No. 2.

## TESTIMONY

| | |
|---|---|
| *Arthur L. Brasher, et. al., vs. Broadwind Energy, Inc., et al.*, declaration | 2012 |
| *In re Apollo Group Securities Litigation*, declaration | 2011 |
| *In re Tripath Technology, Inc., Debtor*, expert reports and deposition | 2010 |
| *In re LDK Securities Litigation*, declaration and deposition | 2008 |
| *Mercator Momentum Fund, L.P. et al. v. IDI Global Inc. et al.*, declaration | 2005 |
| *In re GenesisIntermedia, Inc. Securities Litigation*, expert report and deposition | 2005 |

## SELECTED PRESENTATIONS

| | |
|---|---|
| Antitrust and Regulation in Financial Markets: Navigating New Challenges Conference Panel: "Development and Future of Financial Market Design" | 2016 |
| Securities Enforcement West 2016 Conference Panel: "Insider Trading, Whistleblowers and the Expanding Role of Big Data in Securities Enforcement" | 2016 |
| Securities Enforcement West 2015 Conference Panel: "Insider Trading, Whistleblowers and Other 2015 Enforcement Priorities" | 2015 |
| ABA Subcommittee on Private Equity M&A Panel: "M&A Litigation Trends" | 2015 |
| New York City Bar Association Panel: "Litigation Regarding Credit Default Swaps (CDS)" | 2014 |
| Panel at joint meeting of the Class & Derivative Actions Subcommittee and the Securities Litigation Subcommittee of ABA: "Securities Class Action Trends" | 2013 |
| Directors Roundtable Panel: "Key Issues Facing Boards of Directors: New SEC Enforcement Initiatives and Corporate Governance Risks" | 2012 |
| Bar Association of San Francisco Panel: "Calculating Damages in Securities Class Actions" | 2012 |

## HONORS AND AWARDS

| | |
|---|---|
| Dillon Fellowship Fund Award, Harvard University | 1996 – 1997 |
| Graduate Fellowship, Harvard University | 1995 – 1997 |
| Award for the Best Master's Thesis, Dean's List, New Economic School | 1994 – 1995 |
| University Fellowship, Dean's List, Moscow State University | 1991 – 1992 |

## RELATED SKILLS

Computing: Matlab, STATA, SAS

## PERSONAL

Member of the Board of AFNES, a non-profit organization

Languages: Russian