

# ***Global Analysis of Factors and Determinants of Sustainability Reporting and Assurance***

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# INTRODUCTION

- Corporate sustainability is advancing from greenwashing and branding to, very recently, business imperative as shareholders demand, regulators require, and companies report their sustainability performance.
- Sustainability has become an economic and strategic imperative with potential to create opportunities and risks for businesses.
- A decade ago less than 50 companies released sustainability reports and now more than 14,000 global public companies disclose their financial economic sustainability performance (ESP), and nonfinancial environmental, social, and governance (ESG/CSR) sustainability performance information.
- European Companies are required to issue sustainability reports regarding their CSR/ESG performance as well as diversity, in 2017 and Hong Kong listed companies have reported ESG/CSR since 2015.
- Integrated/sustainability reporting and assurance is gaining momentum.

# Corporate Sustainability: Winner of 2013 Axiom Gold Award

*Corporate Sustainability* explores business sustainability and accountability reporting and their integration into strategy, governance, risk assessment, performance management, and the reporting process. Written by renowned experts in the field of managing for sustainable performance, this important book also highlights how people, business, and resources collaborate in a business sustainability model.

A significant contribution on how to put sustainability principles to work, *Corporate Sustainability* offers real-life tools and practices for creating an authentic corporate framework for sustainability.

Joel Makowner writes, “Companies seeking to embrace sustainability must navigate a thicket of policies and standards, from ethical performance to environmental protection to executive compensation – and do so transparently, comprehensively, and globally. Ann Brockett and Zabiollah Rezaee have created a valuable field guide to this brave new world of multiple bottom lines, providing guidance on how companies can engender public trust and investor confidence while pursuing their economic goals.”

## Corporate Sustainability

Integrating Performance and Reporting



Ann  
Brockett  
Partner, Ernst & Young LLP

Zabiollah  
Rezaee  
Professor of Accountancy,  
University of Memphis

# Business Sustainability, Greenleaf, October 2015

## Review by O.C. Ferrell:

Rezaee takes a more inclusive approach to sustainability performance and reporting by recommending that businesses use a multiple bottom line (MBL) approach rather than the more basic triple-bottom line approach. An MBL approach examines economic, governance, social, ethical, and environmental performance of an organization's activities to determine sustainability. This approach expands the definition of sustainability beyond environmental or economic indicators to advocate for a holistic methodology that factors in the well-being of the organization and its impact on stakeholders.

Rezaee's view of sustainability takes a multidimensional approach incorporating organizational value, long-term performance, and stakeholder theory through the use of financial and nonfinancial measures. This unique way of viewing sustainability and the emphasis on accountability and integrated reporting has the potential to change the way researchers, companies, and public policy makers view this increasingly important field.

## BUSINESS SUSTAINABILITY

Performance, Compliance, Accountability  
and Integrated Reporting

ZABIHOLLAH REZAAE

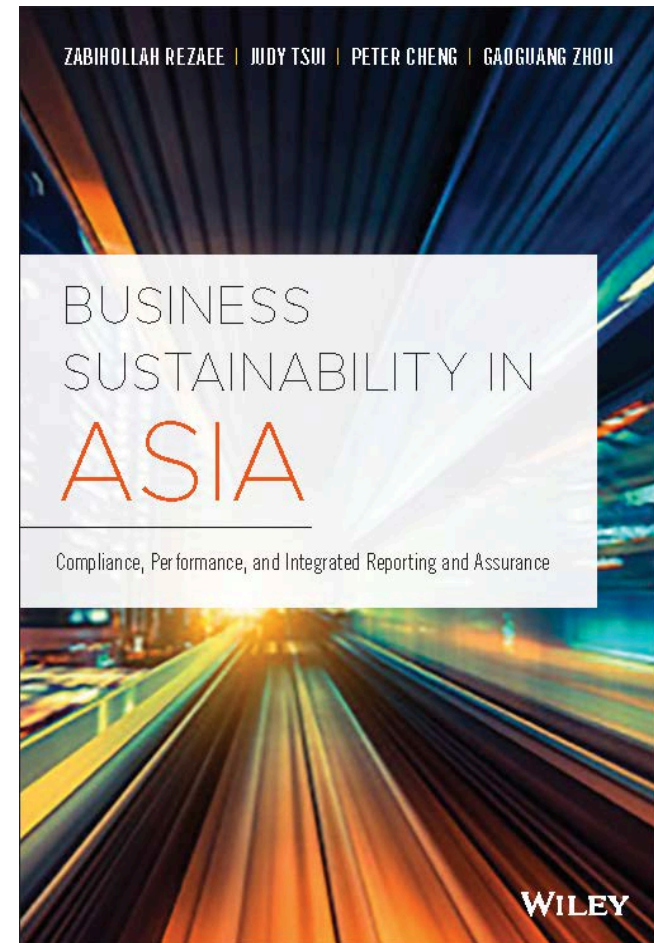


# Business Sustainability in Asia

## THE GLOBAL MOVE TO SUSTAINABILITY HAS ARRIVED IN ASIA

In Asia, sustainability practices have grown substantially over the past decade, and the continent's business leaders are poised to become global leaders in sustainability initiatives. Following the global trend, Asian businesses focus on economic, governance, social, ethical, and environmental (EGSEE) sustainability dimensions. Business Sustainability in Asia applies this paradigm to the economic powerhouses in Asia, from Japan and Mainland China to India and Vietnam. For each jurisdiction, the authors consider:

- Global, regional, and local sustainability requirements and expectations
- Best practices for maximizing firm value by improving sustainability
- Balancing short-, medium-, and long-term sustainable performance
- The interrelated nature of financial performance and long-range sustainability.



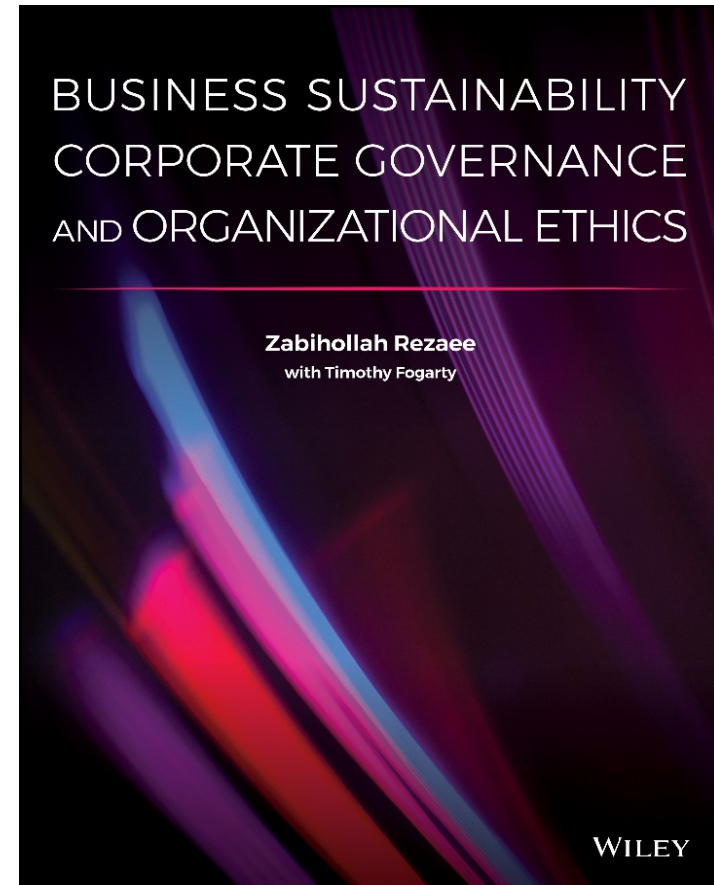


# Text Book

This book is a superior reference for all business schools and other college programs that offer business sustainability, corporate governance, and professional ethics education as well as professionals who need an up-to-date understanding of emerging areas in business. The book can be used in a three-credit hour course designed to develop an awareness and understanding of the main themes, perspectives, frameworks, and issues pertaining to corporate governance and organizational ethics and business sustainability. Alternatively, different modules of the book can be separately used in a variety of accounting and business courses. The 30 chapters of this book are organized into four modules with the first module providing three introductory chapters. Module two covers business sustainability performance, reporting and assurance, and sustainability research and education. The third module explores corporate governance—including its oversight, managerial, compliance, advisory, auditing, and monitoring functions—and discusses its integration with accounting research and business curricula. The importance of organizational, business, professional, and workplace ethics is illustrated in the final module.

Reflecting the most current and cutting-edge information in the field, this book:

- Addresses the latest revisions to the AACSB Accreditation Standards.
- Discusses the role business schools play in promoting integrity, competency, and ethical conduct in financial reporting and auditing processes.
- Covers five dimensions of business sustainability performance: economic, governance, social, ethics, and environmental (EGSEE) as well as integrated sustainability reporting and assurance.
- Provides a framework for discussing important functions of corporate governance such as oversight, managerial, compliance, auditing, advisory, and monitoring.
- Discusses current trends in business sustainability, corporate governance, and ethics research and education.
- Presents profit-with-purpose corporate concept of creating shared value for all stakeholders.



# Research: Synopsis

- **What did we do in the paper?** We examine the factors and determinants of sustainability reporting and assurance (SRA) worldwide.
- **Why did we do?** Global investors demand, regulators require, and companies provide sustainability performance information. This trend of growing integrated sustainability reporting is expected to continue worldwide
- **How did we do?** We perform descriptive and regression analyses in determining the trends in quality and quantity of SRA and determinants of SRA using the Global Reporting Initiative database from 2005-2016.
- **What did we find?** We find the following results:
  - (1) the quantity and quality of SRA have significantly increased worldwide in the past decade;
  - (2) a positive association between the quality and quantity of SRA and sustainability disclosure, and the United Nations Sustainable Development Goals (SDGs);
  - (3) sustainability reporting quantity and quality are significantly associated with legal, social, ethical, and environmental factors.
- **What is our Contribution?** Our results provide insight to both factors and determinants of SRA, which shed light in identifying the nature and benefits of SRA in the voluntary disclosure literature and possible move toward mandatory disclosure.

# Results

Our univariate analyses show that the quantity and quality of SRA have significantly improved in worldwide in the past decade. We find that:

1. the global trend in the issuance of sustainability reports has made substantial progress with a total of 40,026 sustainability reports in the past decade and a majority (about 70 percent) were published in the past five years;
2. the global trend in obtaining sustainability assurance has made steady progress in the past five years with a total of 7,177 assurance reports;
3. the top two continents in terms of numbers of sustainability reports issued, are: Europe with a total of 15,008 and Asia with 11,318 sustainability reports;
4. the top two continents in terms of percentage of sustainability assurance obtained are: Europe followed by Asia (42 and 30 percent respectively);
5. the majority of sustainability reporting and assurance are in financial services, energy, and food and beverage industries (a total of 26 percent);
6. the quality of both sustainability reports and assurance has significantly improved worldwide in the past five years. Further analyses show that Asia with 2009 sustainability reports per capita and Africa with 1,287 reports are ranked top sustainability reporting continents whereas Oceania and Europe sustainability reports are ranked higher for sustainability reports per population.
7. The percentage of sustainability assurance statements per sustainability reports are almost evenly spread among continents with Europe of highest 30 percent and Asia, Latin America and Africa of 26 percent.



# Results

Multivariate regression analyses indicate that:

1. Several sustainability determinants of performance disclosure and ESG scores are associated with the four factors of SRA.
2. Several of the UNSDGs goals such as quality education, gender equality, quality of life on land, responsible consumption and production as proxies for social and ethical attributes, clean water and sanitation as a proxy for environmental attributes and peace and justice as a proxy for the legal system are also linked to four SRA factors.
3. Sustainability reporting quantity and quality are significantly associated with ESG scores and social and ethical activities.
4. Sustainability assurance quantity and quality are significantly associated with the legal system and social and environmental factors.
5. Our results also indicate that sustainability reporting quantity and quality are linked to Europe whereas sustainability assurance quality and quantity are related to North America.
6. The results show that SRA is significantly associated with the four industries of financial, material, telecommunication services, and utilities.

# Sustainability Reporting Quantity

Panel A of Table 1 shows that:

1. Total sustainability reports worldwide have significantly increased from 438 reports in 2005 to 6,526 reports in 2016 with an increase of about 15 times. This trend is expected to continue as regulators worldwide are now moving towards mandatory sustainability reporting.
2. The top two continents with the highest sustainability reporting are Europe and Asia with a total of 15,008 (37 percent of total 40,026 reports) and 111,318 (28 percent) respectively.
3. The next two continents are Latin America and North America with a total of 5,093 (13 percent) and 4,722 (12 percent) sustainability reports respectively. The two continents with lowest sustainability reports are Africa and Oceania with 2,328 (6 percent) and 1,557 (4 percent) respectively.
4. These results reveal that European companies following by Asian companies having the highest percentage of sustainability reporting over the ten years and Oceania had the lowest rate of reporting over the last ten years.

# SUSTAINABILITY REPORTS (Quantity)

| Continen                      | # of Reports |      |      |      |      |      |      |      |      |      |      |      | # of Reports | % of Reports |
|-------------------------------|--------------|------|------|------|------|------|------|------|------|------|------|------|--------------|--------------|
| Year                          | 2016         | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2005-2016    | 2005-2016    |
| Europe                        | 2257         | 2181 | 2142 | 1859 | 1702 | 1409 | 1050 | 821  | 604  | 441  | 312  | 230  | 15008        | 37%          |
| Asia                          | 2283         | 1755 | 1576 | 1432 | 1233 | 995  | 671  | 517  | 394  | 245  | 152  | 65   | 11318        | 28%          |
| Latin America & the Caribbean | 821          | 840  | 751  | 702  | 555  | 464  | 351  | 243  | 175  | 101  | 61   | 29   | 5093         | 13%          |
| Northern America              | 687          | 702  | 687  | 639  | 591  | 477  | 291  | 214  | 181  | 115  | 79   | 59   | 4722         | 12%          |
| Africa                        | 272          | 308  | 342  | 343  | 342  | 392  | 116  | 64   | 59   | 30   | 31   | 29   | 2328         | 6%           |
| Oceania                       | 206          | 207  | 197  | 193  | 174  | 159  | 123  | 98   | 75   | 57   | 42   | 26   | 1557         | 4%           |
| Total                         | 6526         | 5993 | 5695 | 5168 | 4597 | 3896 | 2602 | 1957 | 1488 | 989  | 677  | 438  | 40026        | 100%         |

# Sustainability Reporting Quality

- We use the GRI's G4 in examining the quality of sustainability reports for our sample of Asian companies. Table 4 shows the quality of sustainability reporting based on the compliance with G4 of the GRI classifications from 2005-2016.
- The GRI classifies the sustainability reports' application level of GRI Frameworks into 11 ranks for each firm with the application level as "Undeclared", "Reference Only", "In Accordance" or "In accordance – Core", "Content Index Only", "C", "C+", "B", "B+", "A" and "A+".
- A higher rank indicates a better application level of GRI Framework and thus better sustainability reporting quality.
- The top three levels of the GRI application used by Asian companies are 2,098 "Undeclared indicators" (34%) followed by 1,539 "In accordance-Core" (25%) and 880 "Application Level with an "A+" symbol" (14%).

# Quality of Sustainability Reports

| TYPE OF ASSURANCE             | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | QUANTITY | PERCENT AGE |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|----------|-------------|
| In accordance - Core          | 2551 | 1914 | 807  | 47   | 1    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 5320     | 21%         |
| Undeclared                    | 566  | 713  | 722  | 631  | 483  | 428  | 476  | 425  | 393  | 173  | 55   | 11   | 5076     | 20%         |
| A+                            | 0    | 152  | 451  | 642  | 582  | 502  | 394  | 309  | 221  | 125  | 23   | 1    | 3402     | 13%         |
| B                             | 0    | 181  | 468  | 665  | 585  | 469  | 343  | 237  | 153  | 94   | 9    | 0    | 3204     | 13%         |
| C                             | 0    | 190  | 367  | 540  | 552  | 517  | 407  | 295  | 182  | 76   | 10   | 0    | 3136     | 12%         |
| B+                            | 0    | 104  | 301  | 428  | 354  | 291  | 211  | 154  | 124  | 71   | 5    | 0    | 2043     | 8%          |
| A                             | 0    | 59   | 147  | 221  | 203  | 202  | 169  | 134  | 89   | 48   | 9    | 0    | 1281     | 5%          |
| In accordance - Comprehensive | 429  | 334  | 181  | 8    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 952      | 4%          |
| C+                            | 0    | 45   | 92   | 136  | 156  | 132  | 109  | 71   | 29   | 28   | 5    | 0    | 803      | 3%          |
| TOTAL                         | 3546 | 3692 | 3536 | 3318 | 2916 | 2541 | 2109 | 1625 | 1191 | 615  | 116  | 12   | 25217    | 100%        |



# Sustainability Assurance Quantity

Results indicate that:

1. Sustainability assurance has made steady progress after the issuance of G4 and in the past five years a total of 7,177 sustainability assurance reports worldwide were issued in the 2012-2016 period.
2. The trend in sustainability assurance opinions in the past five years for companies in all six reported continents. The top two continents for sustainability assurance represented for almost five years are Europe with 3,042 statements (42 percent) and Asia with 2,162 statements (30 percent).
3. Companies in Latin America reported 957 (14 percent) assurance statements followed by companies in North America (7 percent) and other continents with less than five percent.
4. The last column of Panel A of Table 3 presents the sustainability assurance quantity as the percentage of the number of sustainability reports in each continent. Europe shows the highest percentage (30%) followed by Asia, Latin America, and Africa (26%).
5. The increasing trend in the issuance of sustainability assurance reports is shown for Asia whereas this trend in other continents has been steady from 2012 to 2016.

# SUSTAINABILITY ASSURANCE QUANTITY

| Continent                     | 2016 | 2015 | 2014 | 2013 | 2012 | # of Reports | % of Reports | % of Assurance Statements per Sus Reports |
|-------------------------------|------|------|------|------|------|--------------|--------------|---|
| Europe                        | 593  | 624  | 654  | 606  | 565  | 3042         | 42%          | 30%                                       |
| Asia                          | 572  | 512  | 431  | 368  | 279  | 2162         | 30%          | 26%                                       |
| Latin America & the Caribbean | 192  | 216  | 198  | 196  | 155  | 957          | 14%          | 26%                                       |
| Northern America              | 114  | 94   | 99   | 102  | 87   | 496          | 7%           | 15%                                       |
| Oceania                       | 42   | 44   | 57   | 58   | 66   | 267          | 4%           | 17%                                       |
| Africa                        | 42   | 57   | 53   | 43   | 58   | 253          | 4%           | 26%                                       |
| Total                         | 1555 | 1547 | 1492 | 1373 | 1210 | 7177         | 100%         |   |

# Sustainability Assurance Quality

- Sustainability assurance can be provided by internal auditors, external assurance providers, or external auditors.
- Two types of reasonable and limited assurance are commonly provided on sustainability reports. Results show that:
  1. Much of opinions expressed in sustainability assurance reports (over 57 percent) are limited/moderate, suggesting that assurance providers opine that they are not aware of their client company failing to be in compliance with applicable sustainability guidelines (G4 of GRI).
  2. Over 31 percent did not specify what type of assurance was provided with their sustainability reports.
  3. Approximately nine percent of assurance reports are accompanied with reasonable/high level assurance suggesting that assurance providers opine on whether their client company is in compliance with applicable sustainability guidelines (e.g., G4 of GRI) whereas about three percent were a combination of limited and reasonable type of assurance.

# Sustainability Assurance Quality

| TYPE OF ASSURANCE | 2016 | 2015 | 2014 | 2013 | 2012 | QUANTITY | PERCENTAGE |
|-------------------|------|------|------|------|------|----------|------------|
| Limited/ Moderate | 1201 | 783  | 729  | 695  | 689  | 4097     | 57%        |
| Not specified     | 152  | 624  | 597  | 522  | 345  | 2244     | 31%        |
| Reasonable/ High  | 156  | 101  | 125  | 125  | 147  | 654      | 9%         |
| Combination       | 42   | 39   | 41   | 31   | 29   | 182      | 3%         |
| Total             | 1555 | 1547 | 1492 | 1373 | 1210 | 7177     | 100%       |

# The OLS Regression relation between SRA and SDG

|                        | SRQ1       | SRQ2       | SAQ1        | SAQ2        |
|------------------------|------------|------------|-------------|-------------|
| ESG Score              | 0.00349*** | 0.0242***  | 0.00701***  | 0.00907***  |
|                        | (9.28)     | (7.75)     | (15.08)     | (13.66)     |
| DJSI                   | -0.00069   | 0.106      | 0.0177      | 0.0193      |
|                        | (0.07)     | (1.18)     | (1.27)      | (0.98)      |
| SDG 4                  | -0.00345** | -0.134***  | -0.0160***  | -0.0212***  |
|                        | (2.82)     | (10.81)    | (8.62)      | (8.10)      |
| SDG 5                  | 0.00267*** | 0.0664***  | 0.00677***  | 0.00614***  |
|                        | (4.20)     | (10.92)    | (7.06)      | (4.52)      |
| SDG 6                  | 0.000671   | -0.0298*   | 0.00669***  | -0.00999*** |
|                        | (0.61)     | (2.21)     | (3.31)      | (3.52)      |
| SDG 12                 | -0.00190*  | 0.00335    | 0.00562***  | 0.00590***  |
|                        | (2.29)     | (0.44)     | (4.74)      | (3.44)      |
| SDG 13                 | 0.00244*** | -0.00368   | -0.000795   | -0.00201*   |
|                        | (4.94)     | (0.88)     | (1.21)      | (2.09)      |
| SDG 15                 | -0.00120*  | 0.0131*    | 0.00331***  | 0.00164     |
|                        | (2.37)     | (2.18)     | (3.62)      | (1.25)      |
| SDG 16                 | 0.00125*   | 0.00935    | 0.00226**   | 0.00278*    |
|                        | (2.48)     | (1.74)     | (2.79)      | (2.41)      |
| SDG 17                 | 0.00346*** | -0.00629   | -0.000635   | -0.00226**  |
|                        | (7.03)     | (1.62)     | (1.02)      | (2.59)      |
| Total Assets           | -0.000849  | 0.318***   | 0.0354***   | 0.0266      |
|                        | (0.11)     | (4.99)     | (3.55)      | (1.9)       |
| ROA                    | 8.22       | -1.39**    | -1.45       | -7.86       |
|                        | (1.59)     | (2.96)     | (0.15)      | (0.06)      |
| ReportsPop             | 0.000858   | 0.0480***  | 0.00963***  | 0.0113***   |
|                        | (0.7)      | (4.36)     | (5.27)      | (4.28)      |
| ReportsGDP             | 1.2106     | 0.000402** | 0.000128*** | 0.000168*** |
|                        | (0.09)     | (3.1)      | (6.4)       | (6.12)      |
| Constant               | 0.825***   | 15.62***   | 1.196***    | 2.369***    |
|                        | (4.47)     | (7.95)     | (4.16)      | (5.59)      |
| Year fixed effects     | Yes        | Yes        | Yes         | Yes         |
| Industry fixed effects | Yes        | Yes        | Yes         | Yes         |
| Observations           | 4390       | 4390       | 4390        | 4390        |
| R-square               | 0.0482     | 0.1198     | 0.1343      | 0.1198      |



# CONCLUSION

- This paper examines the trends and determinants of SRA in the past decade by investigating the quantity and quality of SRA worldwide.
- We construct four measures of SRA factors as sustainability reporting quantity (SRQ1), sustainability reporting quality (SRQ2), sustainability assurance quantity (SAQ1) and sustainability assurance quality (SRQ2).
- Measures of determinants of SRA are sustainability disclosures, sustainability ESG scores, the Dow Jones Sustainability Index (DJSI) and several goals of the UNSDGs including social benefits, environmental, and ethical factors and legal system.
- We find that the quantity and quality of SRA have significantly increased worldwide in the past decade.
- Our regression results indicate that several variables namely ESG sustainability performance score, social, educational, and environmental attributes and total assets are significantly associated with both SRQ1 and SRQ2.
- This paper provides policy, practical, and research implications by presenting the status and determinants of sustainability reporting and assurance worldwide that can be used as a benchmark for standard-setters (GRI, IIRC, and SASB), business organizations, and researchers in other countries in promoting sustainability performance, reporting, and assurance.

# Questions?

## Thank you for your Attention

