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Jobs in IT & DS: Texas

Using What We Teach!

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Introduction – Why?

- IT & Decision Science majors difficult to attract
- Try to find ways to help grow our majors
- Geeeee, let's try what we teach!
- Decided to use BI in a creative, entertaining, engaging way for our students to see benefits of IT and DS – they like to see job openings that pay well

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THE FRAGILE STATE OF TALENT MANAGEMENT

A crisis ahead that won't be financial*

- **The continuing war for talent****

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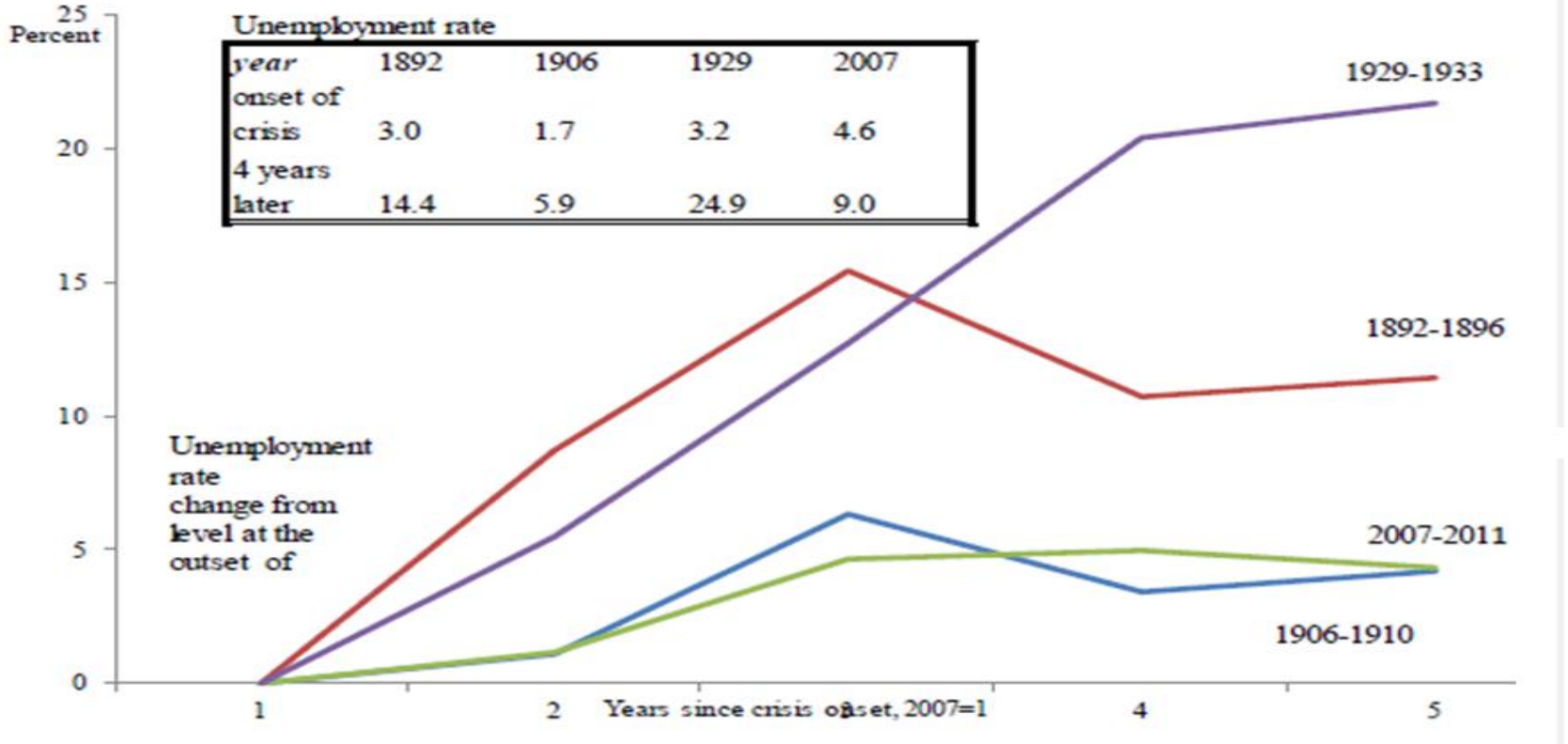
Jobs in Downturns*

Figure 2. Average Annual Unemployment Rate in the Aftermath of Systemic Banking Crises in the United States, 1892-2011



Changes in Direction

- Project has taken additional dimensions (2006 – present)
  - Tracking more job categories
  - Forecasting market trends
  - Leading economic indicator
- Many limitations for serious research, but serves as a valuable set of data for our students, the Center for Decision & Information Technologies' members and the ITDS Department
- A directional set of data
- Aside: Structural Unemployment issues foretell an overall depressing job market into the future. Specific skills will become very important… J. Dake (2006)

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Tracking More Categories
The World Changes

2006	2007	2008	2009
ANALYST	**VIRTUAL**	**GIS**	**CLOUD**
6 SIGMA	**BUDGET**		**INFO. TECH**
LEAN	**PLANNING**		**LIFECYCLE**
SAS	**STRATEGY**		**ENT. ARCH.**
DATA	**CONSULTING**		**IT PROJ. MGT.**
BI	**INNOVATION**		**QUALITY**
SAP	**SCORECARD**		
ORACLE	**GRAPHIC**		
FORECAST	**VISUAL**		
PERFORMANCE			
MRO			
SUPPLY			
LOGISTICS			

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Tracking More Categories
Sometimes the Mind Moves Slowly (BFO's)

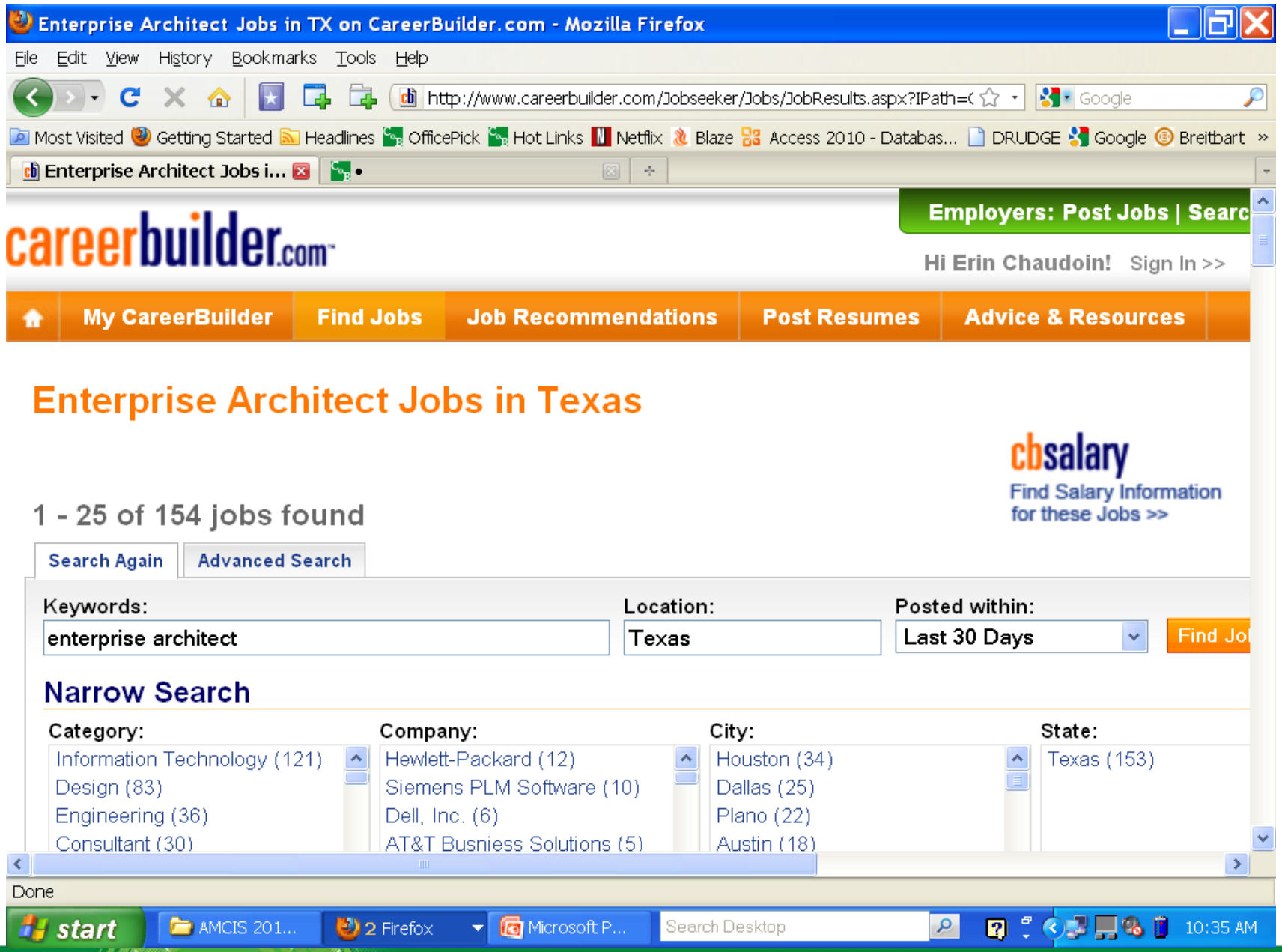
2010	2011	2012	2013
PROC. IMPROV.	0	**Mobile Apps**	?
		Dashboard	
		Risk Mgt.	
		Social Media	
		SharePoint	
		SQL	
		.NET	
		SPSS	
		NoSQL	
		Apache	
		Hadoop	

Forecasting Market Trends

- Existing Job Categories – Are the jobs we are educating our students to fill increasing or declining?
  - Technical Change in the world?
  - Economic Change in the world?
  - Cultural Change in the world?
- New Job Categories – What do we need to educate our students for over the coming years to serve industry and keep our students the most competitive?
  - Technical Drivers?
  - Economic Drivers?
  - Cultural Drivers?

Leading Economic Indicator

- Traditional data sources are 2 or more months behind the real-time data sources
- Collected data from Careerbuilder.com on job postings within the last 30 days – looking forward data?
- Data collected on approximately the 15th of every month.
- Categories of job growth or decline for our students.
- Are we likely to see tax revenue growth for the state?



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A green light to greatness.

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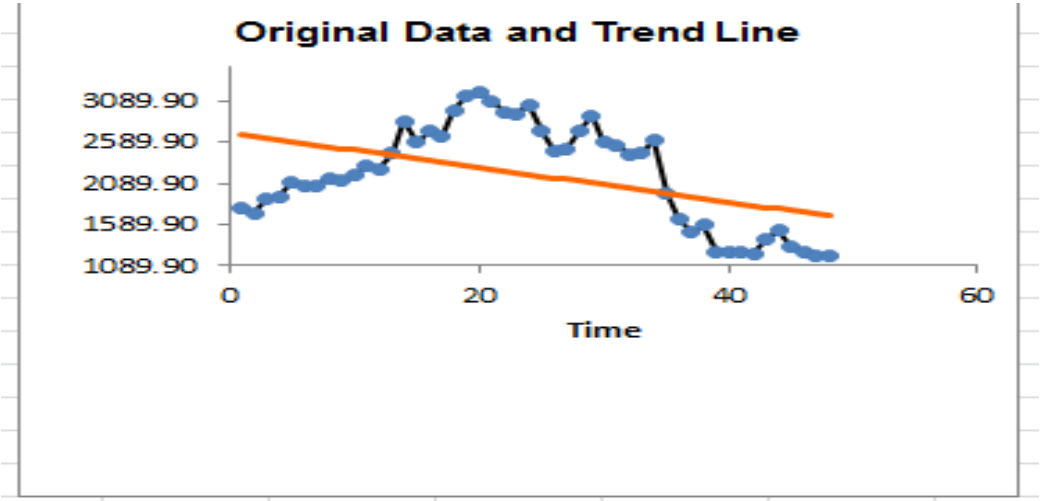
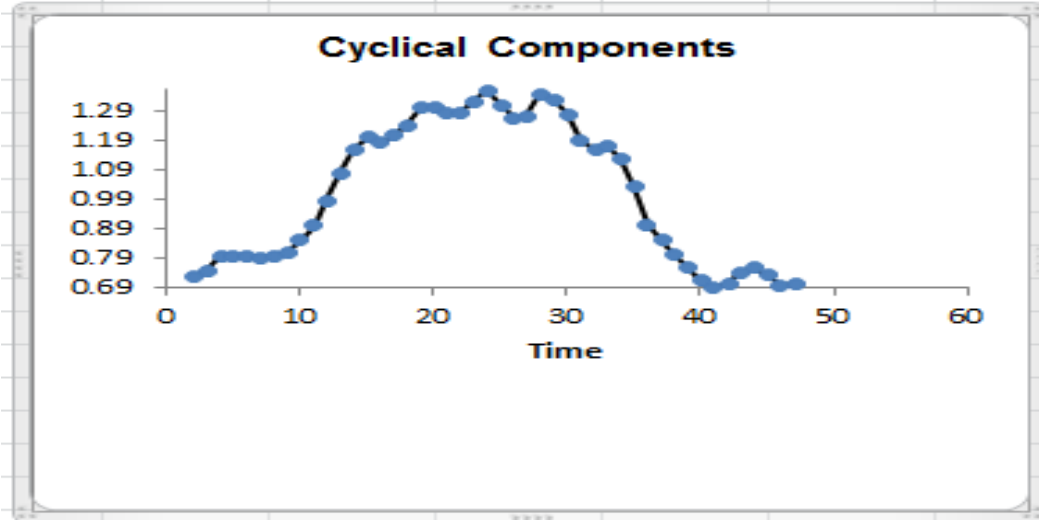
Analysts: 2006 thru 2009 Economic Cycle





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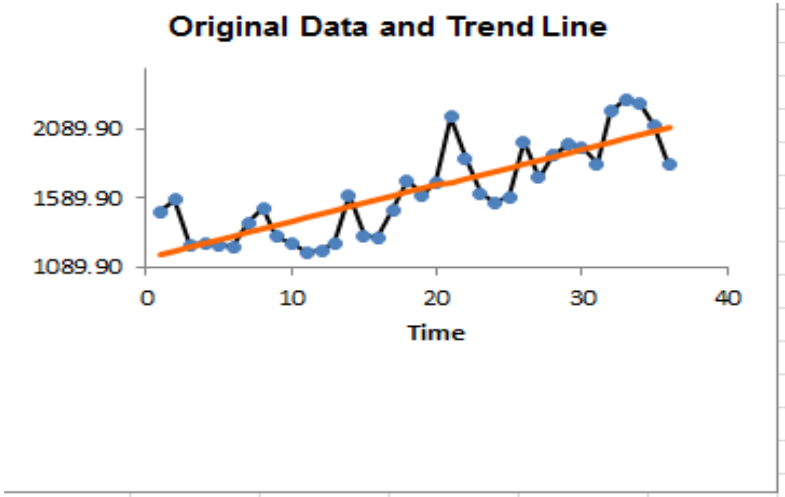
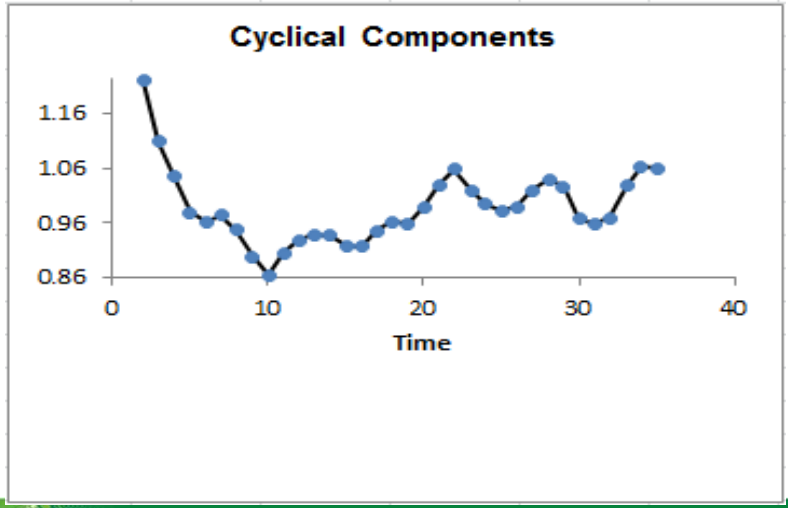
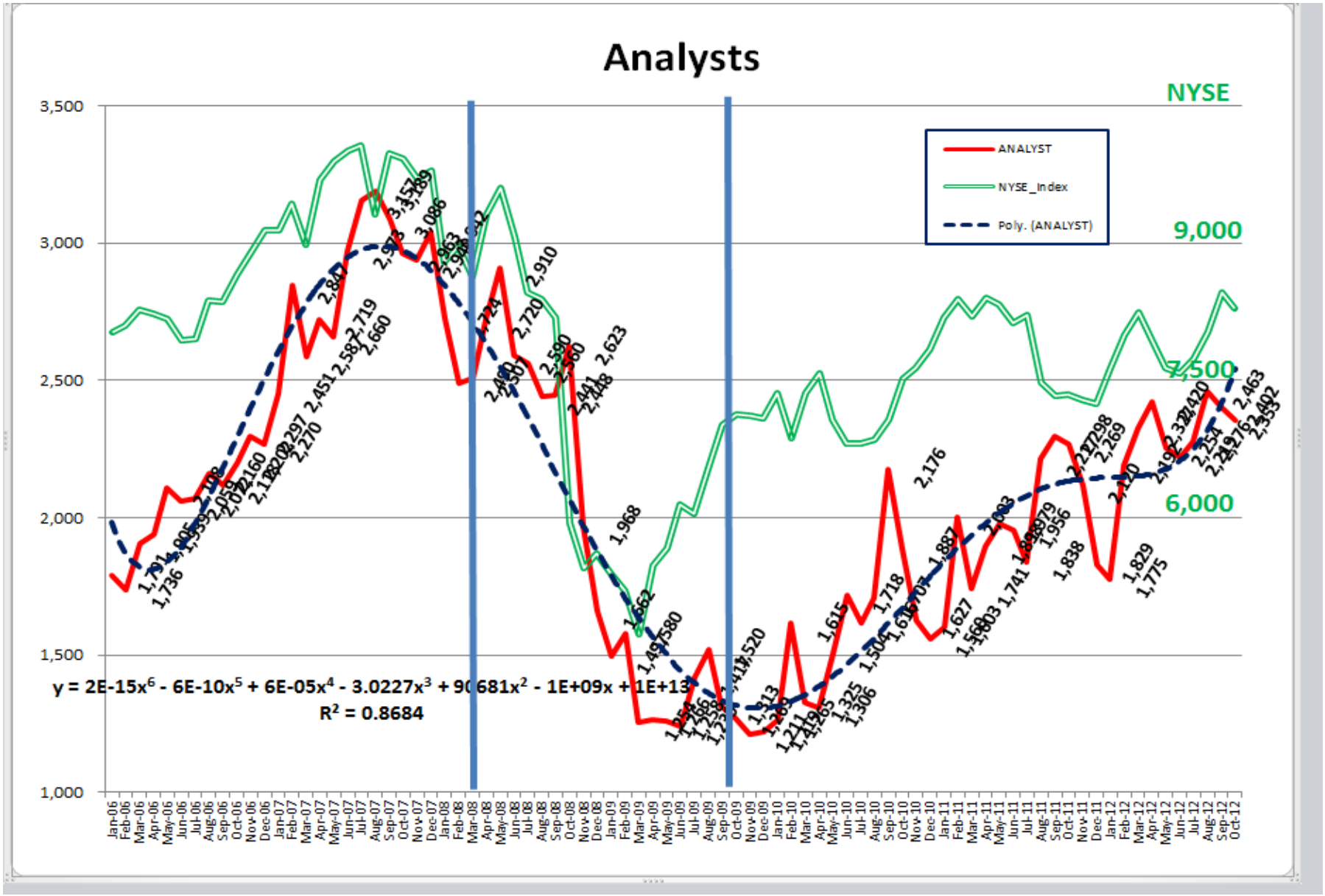
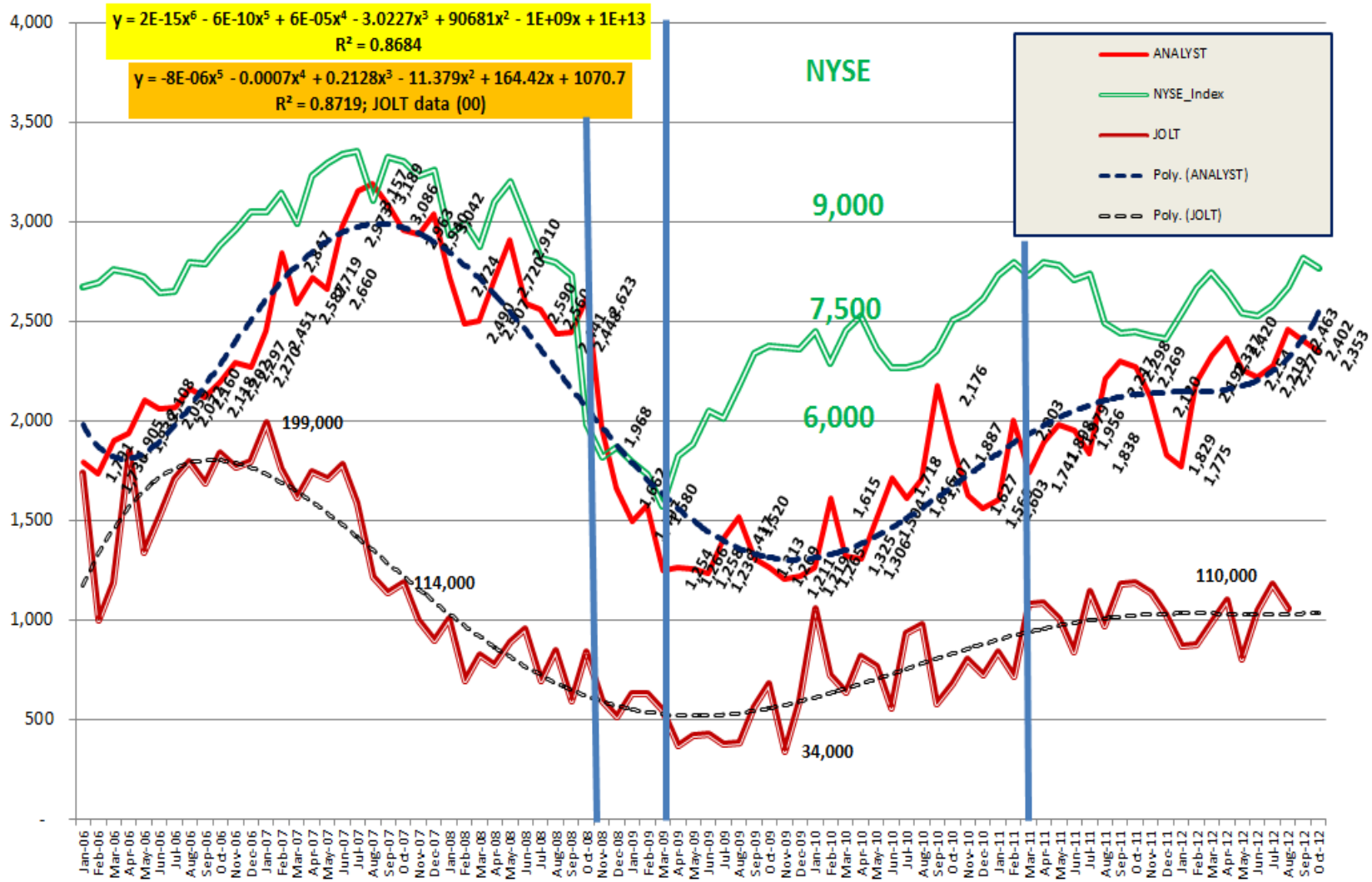
Analysts: 2009 thru 2011 Economic Cycle





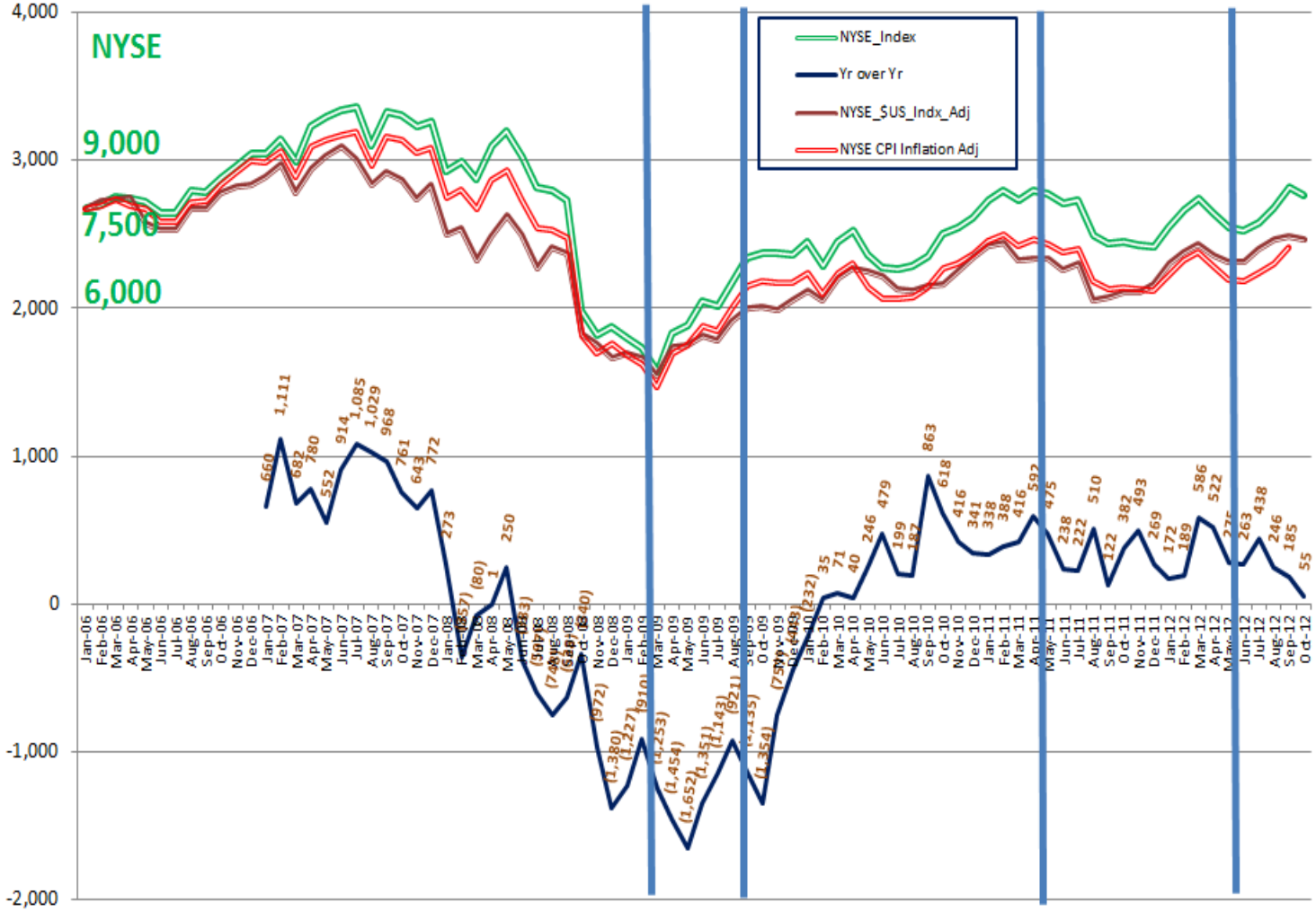

Analysts
NYSE
ANALYST
NYSE_Index
Poly. (ANALYST)
9,000
7,500
6,000
3,500
3,000
2,500
2,000
1,500
1,000
y = 2E-15x^6 - 6E-10x^5 + 6E-05x^4 - 3.0227x^3 + 90681x^2 - 1E+09x + 1E+13
R^2 = 0.8684

Analysts' Job Openings (TX) w/ JOLT Information Industry data



TEST ENVIRONMENT: Analysts Job Openings (TX) with Yr over Yr Trend

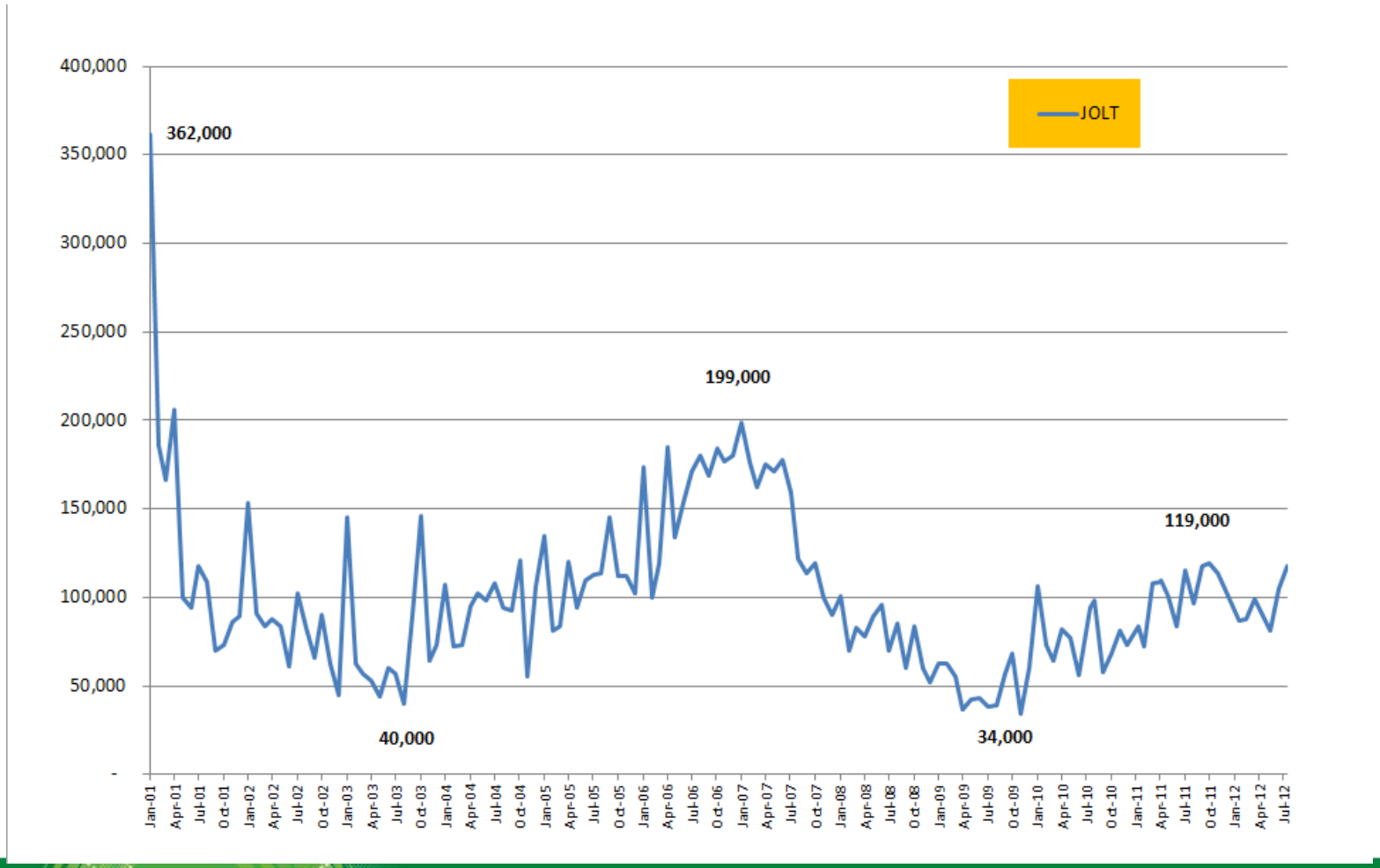
NYSE Adjustmented for: 1) $ US index and 2) CPI Inflation index [Base Mo.= Jan/2006



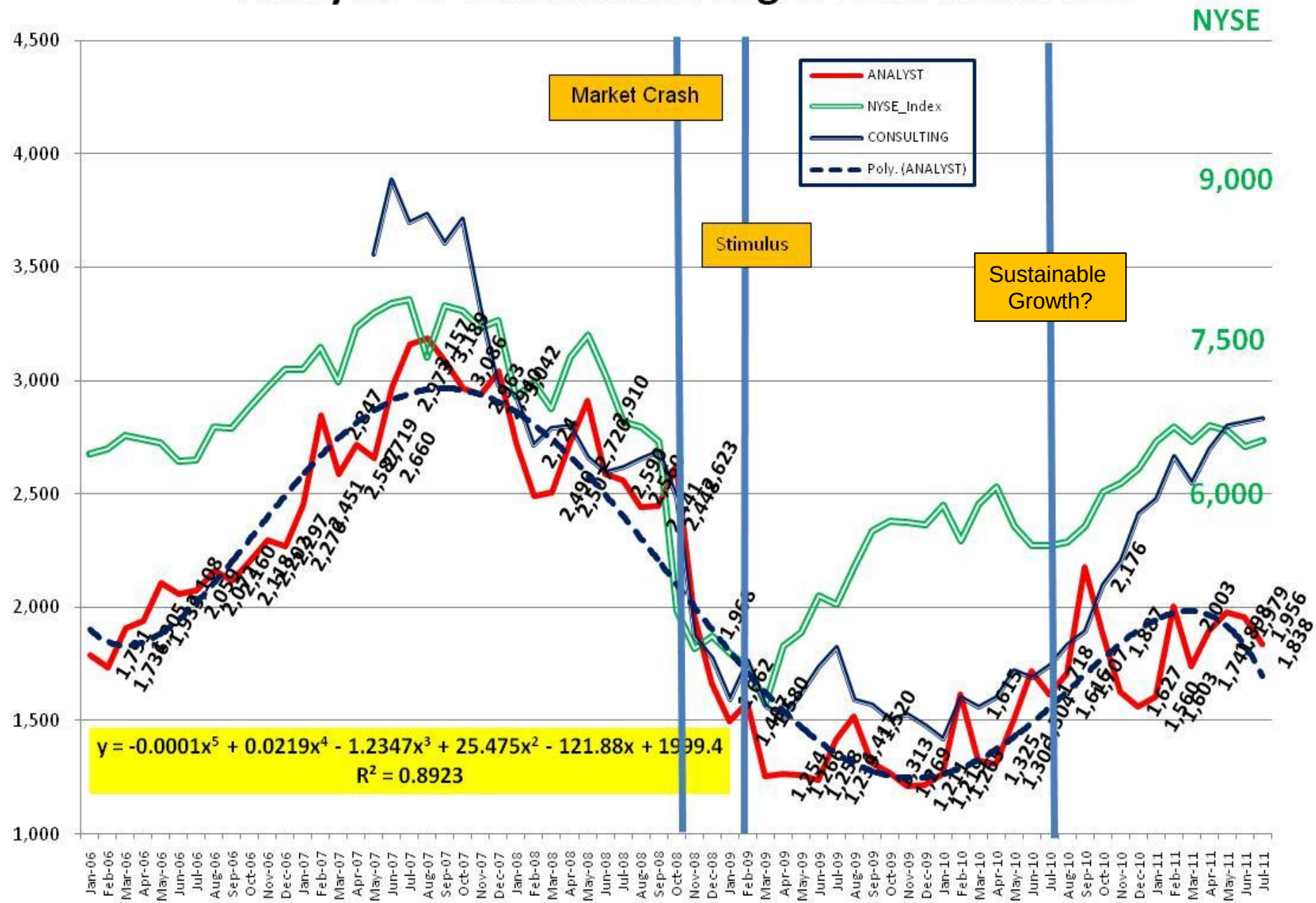
Compare Real-time Data to Other Data Sources

- Bureau of Labor Statistics
  - Employment/Unemployment data
  - Job Openings Data
- Private reporting agencies
  - Gartner, Forrester, etc.
- Credibility of Real-time data??

JOLT Data for **Information Industry** (000s; 2006 thru Present)



Analysts & Consultants: Lag & Lead Indicators



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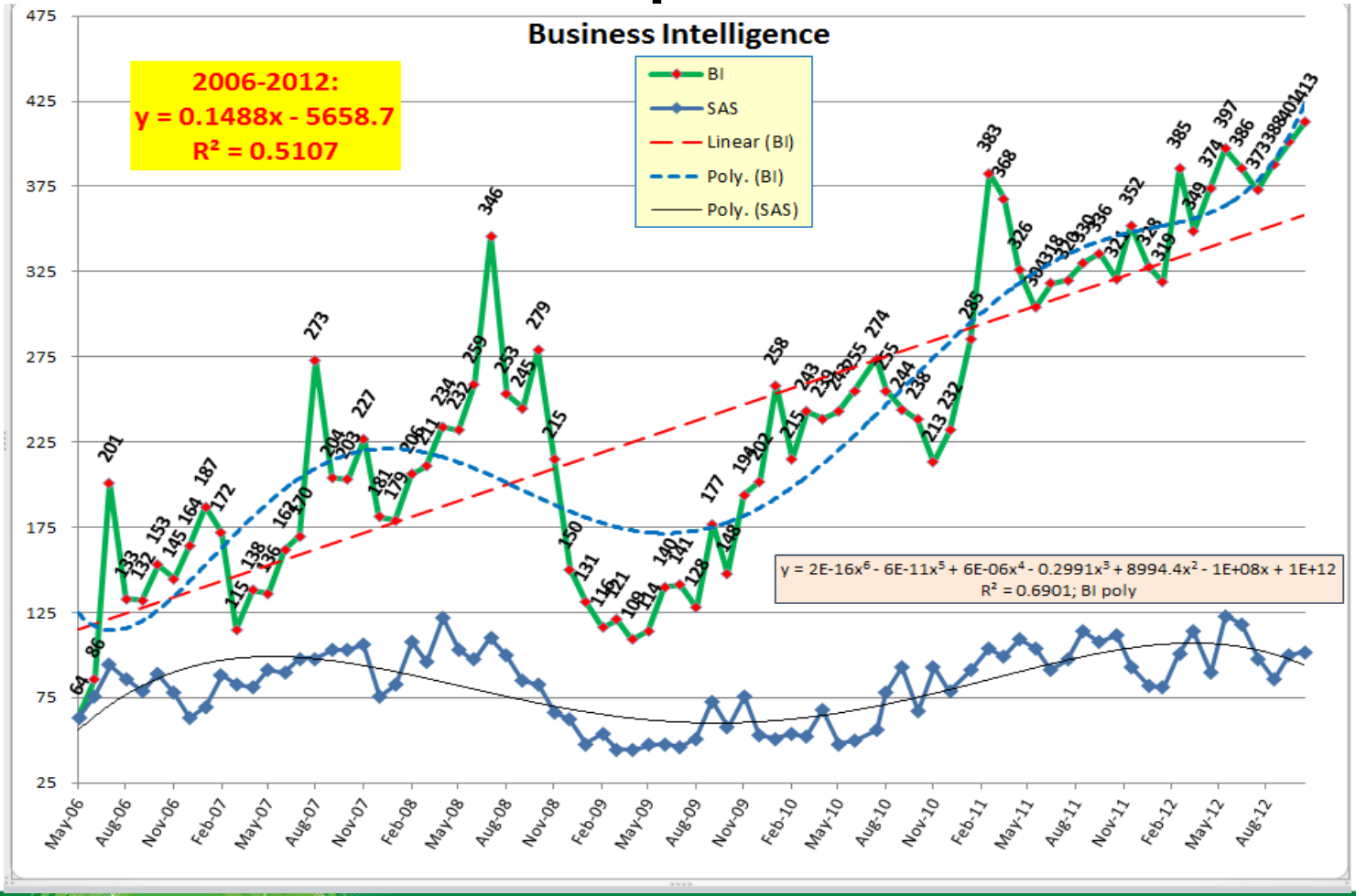
BI Job Openings Trending Upward!



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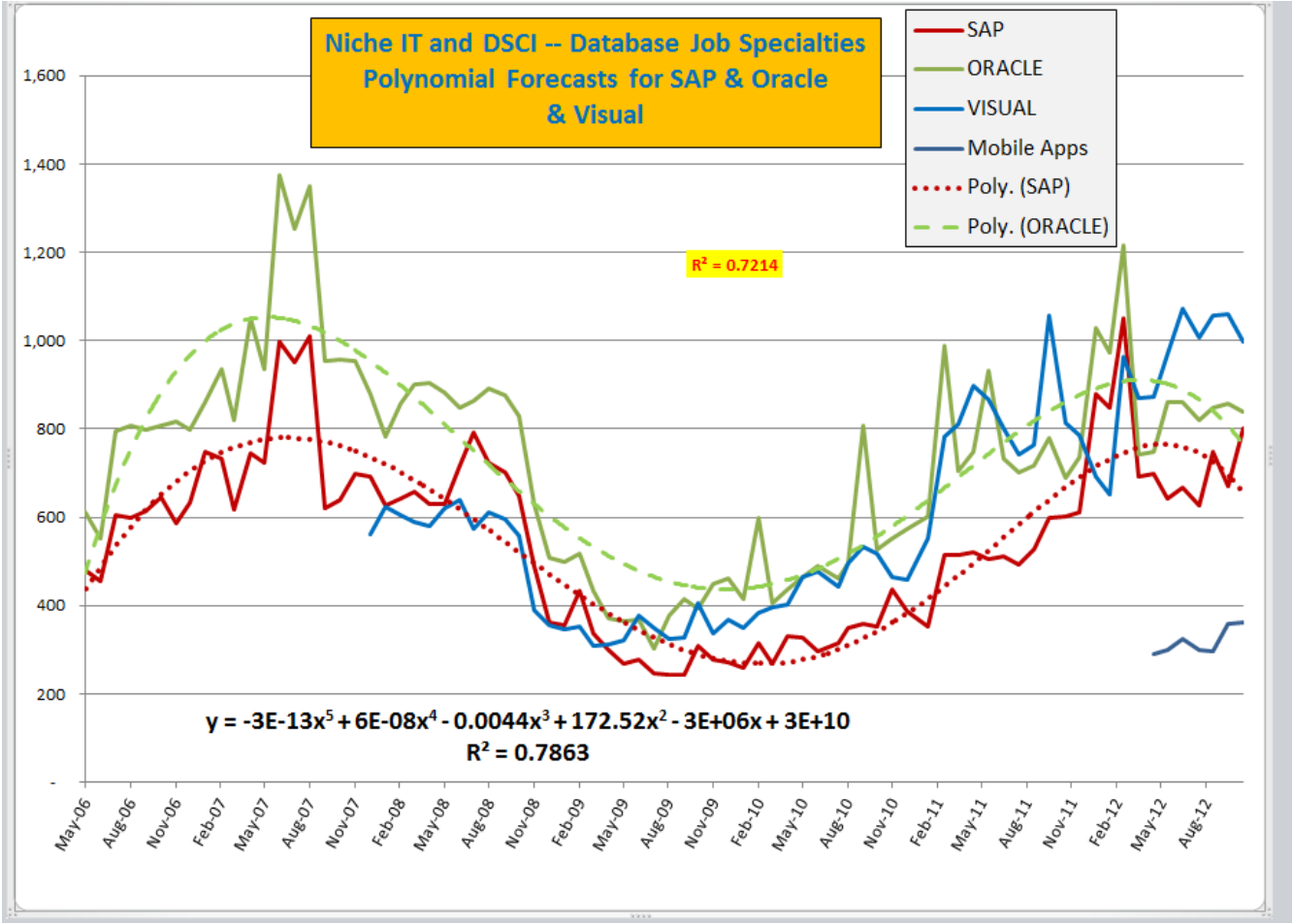
Database Market Place
Oracle & SAP



E.g., IT Project Mgt Takes Off

- In last year **IT Project Management** openings have literally taken off
- One anomaly drop in April 2011??
- Essentially job openings doubled from 500+ to nearly 3,000!!

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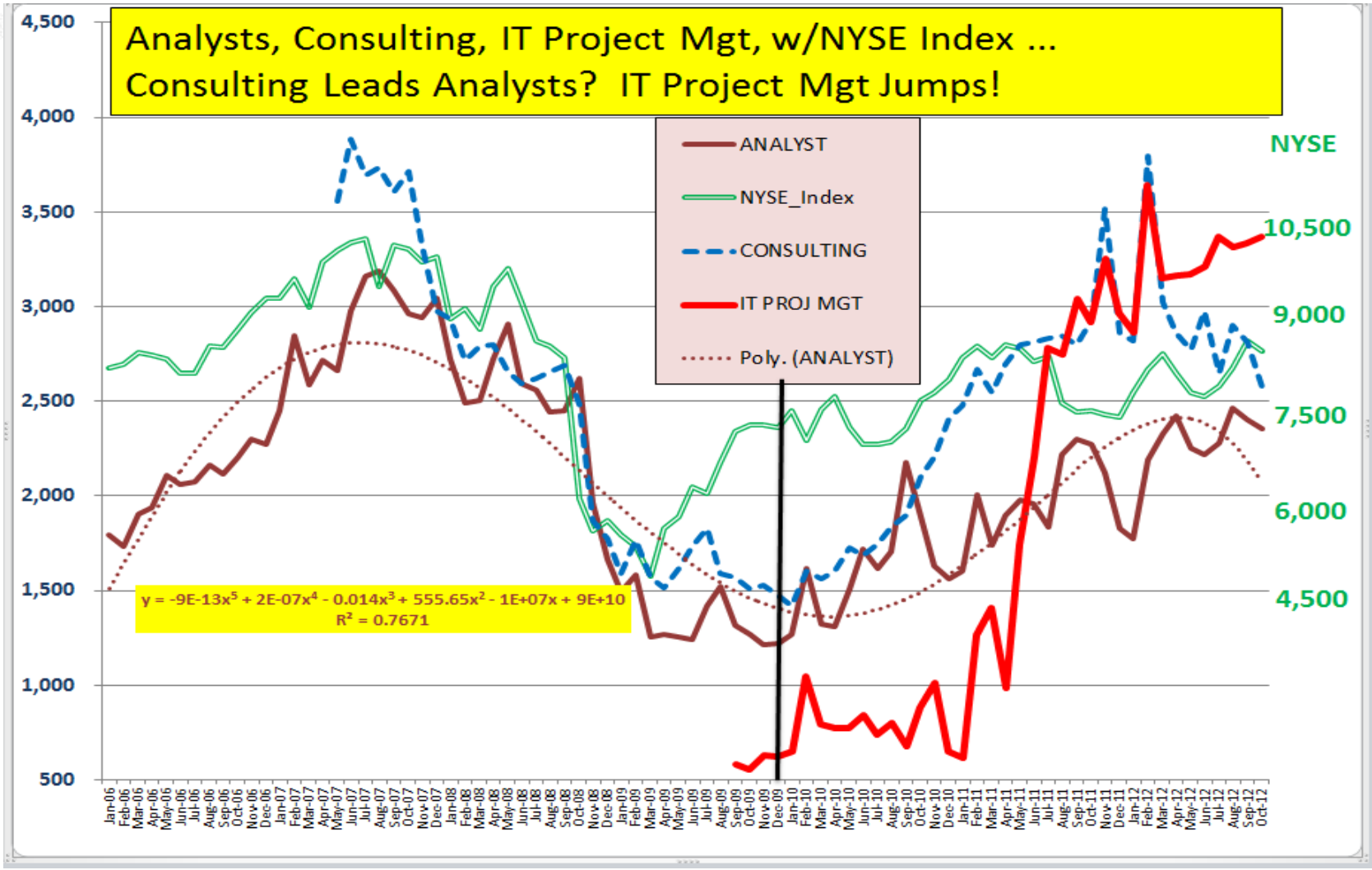
Large Move IT Project Management



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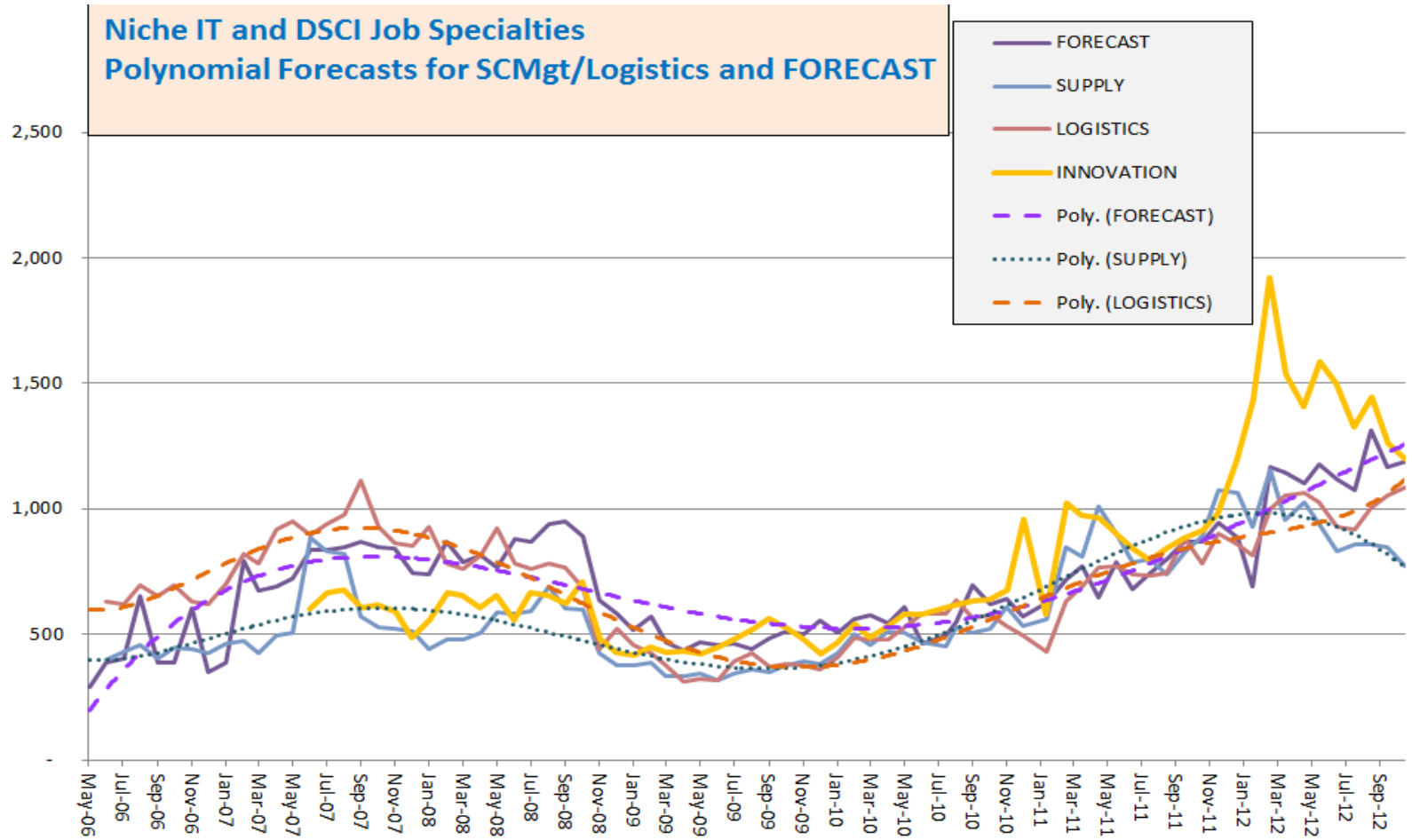
Breakout for Innovation?



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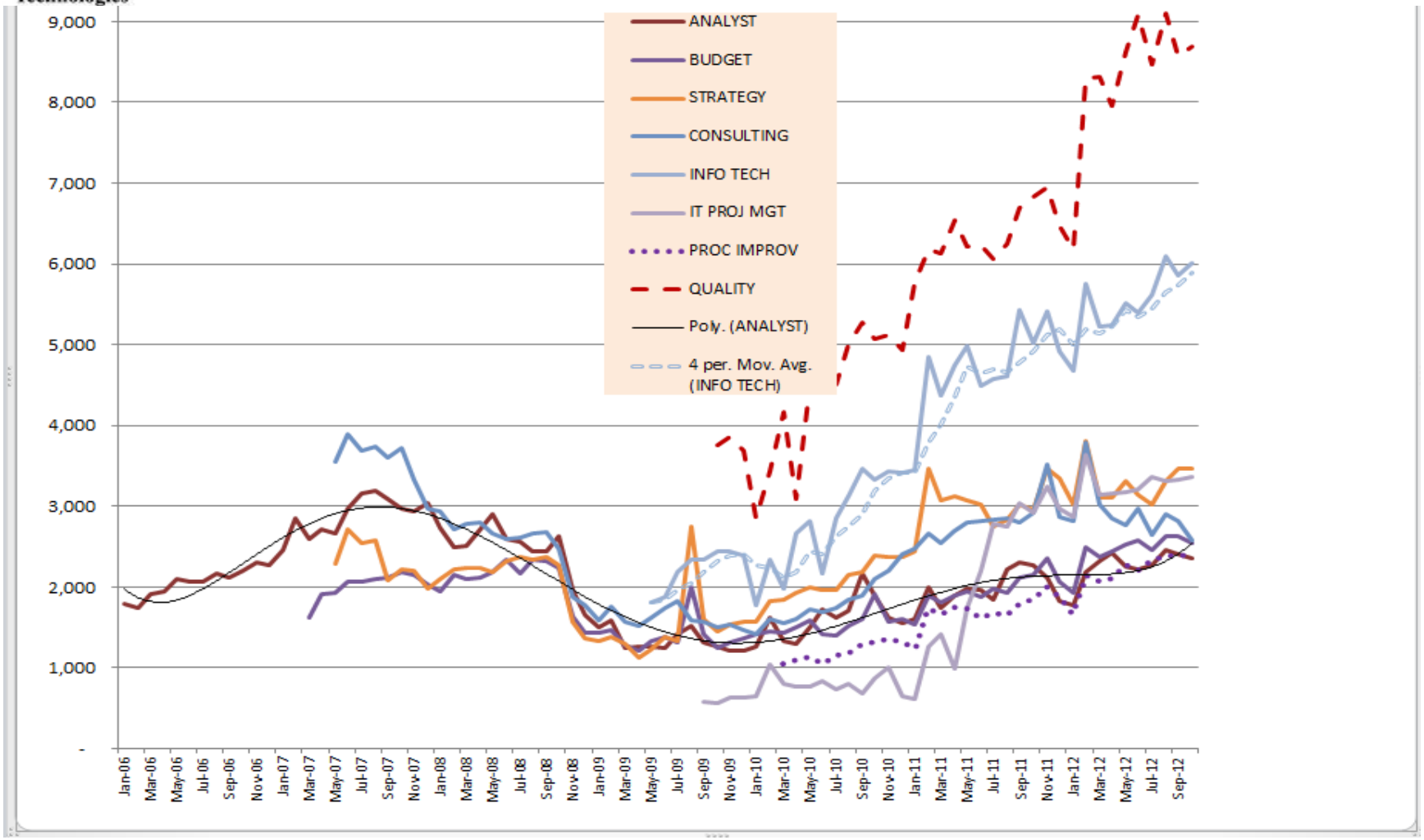
Large Categories



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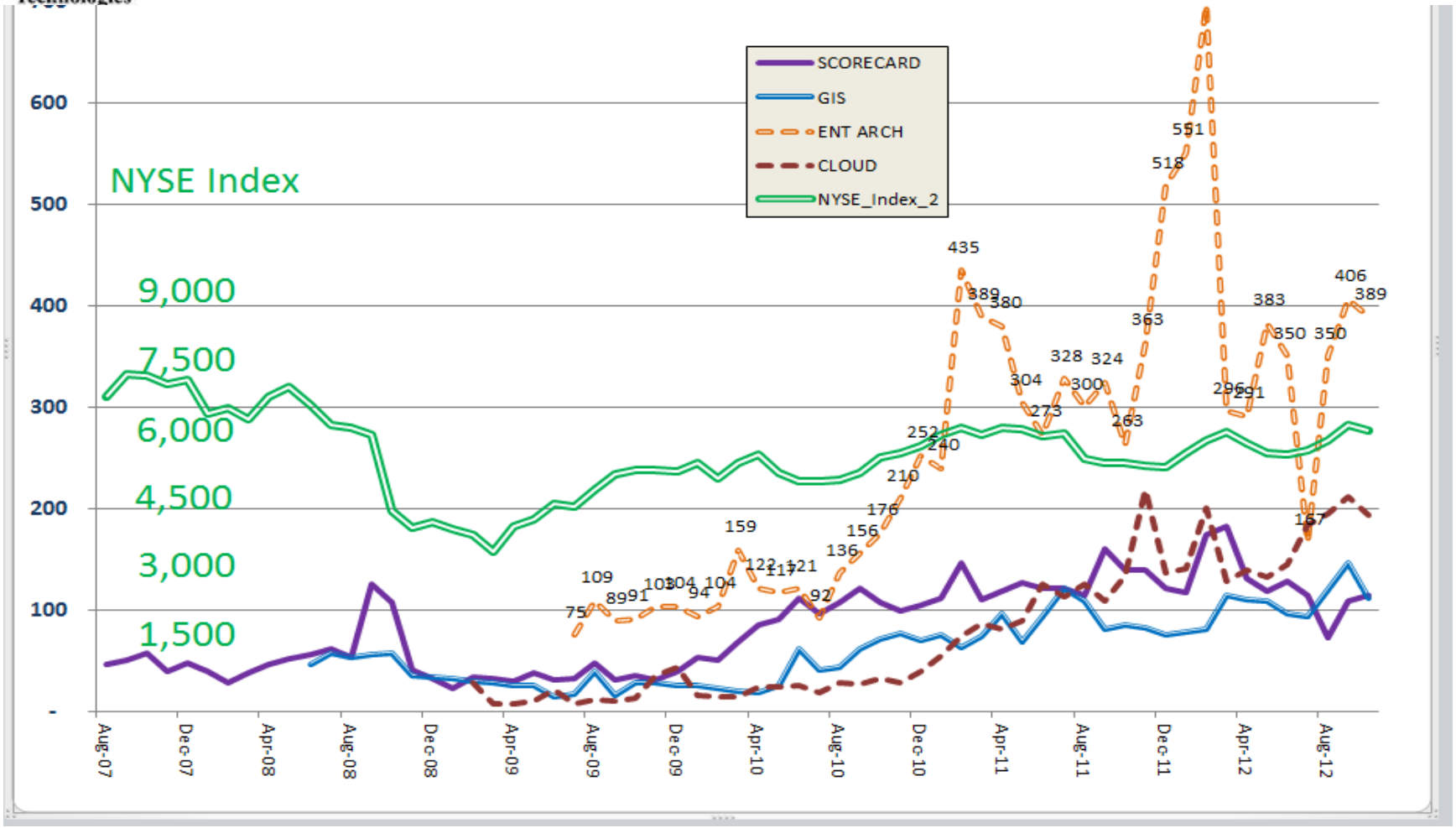
Small Specialty



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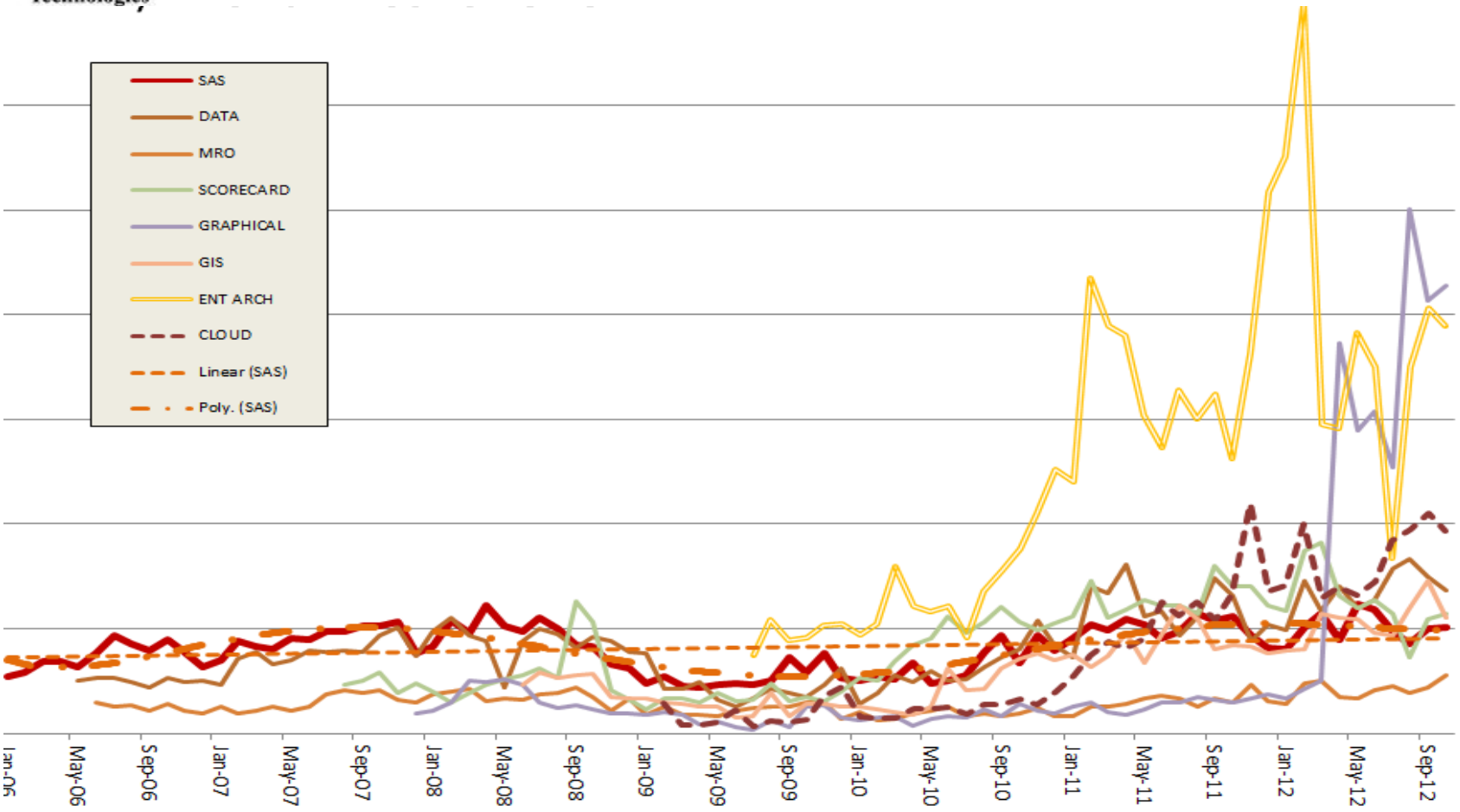
Smaller Specialty



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Lots of Fun!!
Brew your own personal “batch”

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STOP