GIRO 2016 Pricing Plenary

Ed Tredger
Senior Pricing Actuary, Novae

This talk has 3 motivations

- To explain what is meant by big data and machine learning

- So does it really work?

- The 'Deep blue' test - will machine learning take our jobs?

Institute
and Faculty
of Actuaries

1

What is machine learning? Big data?

Machine learning means computers do the hard work
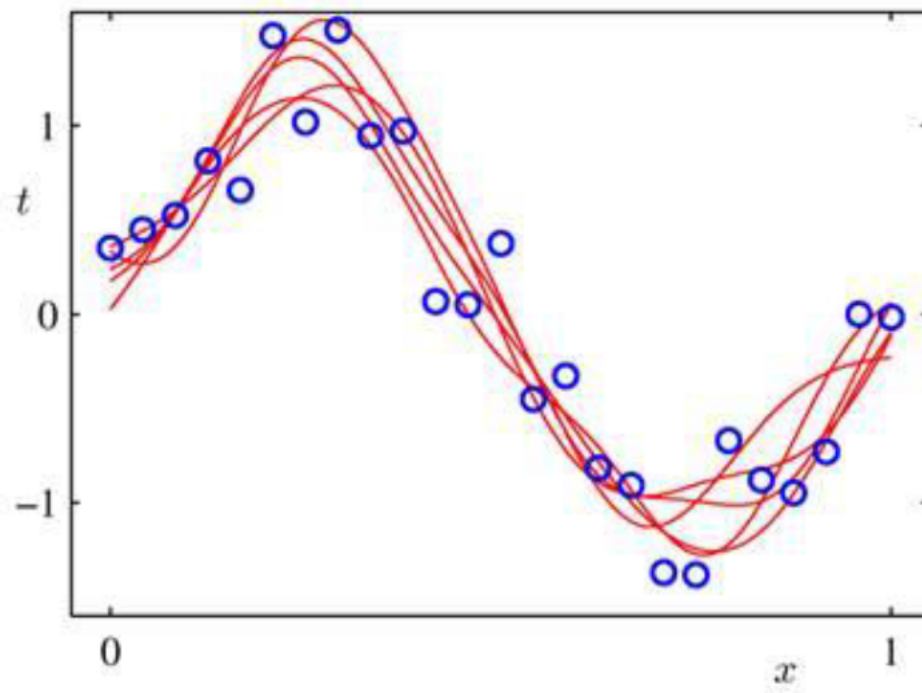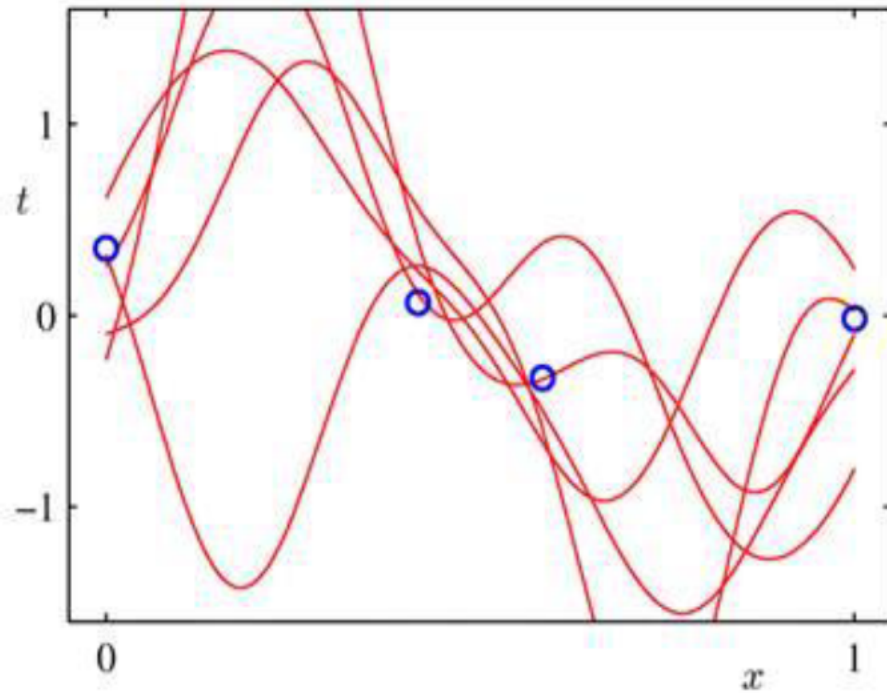
Institute
and Faculty
of Actuaries

2

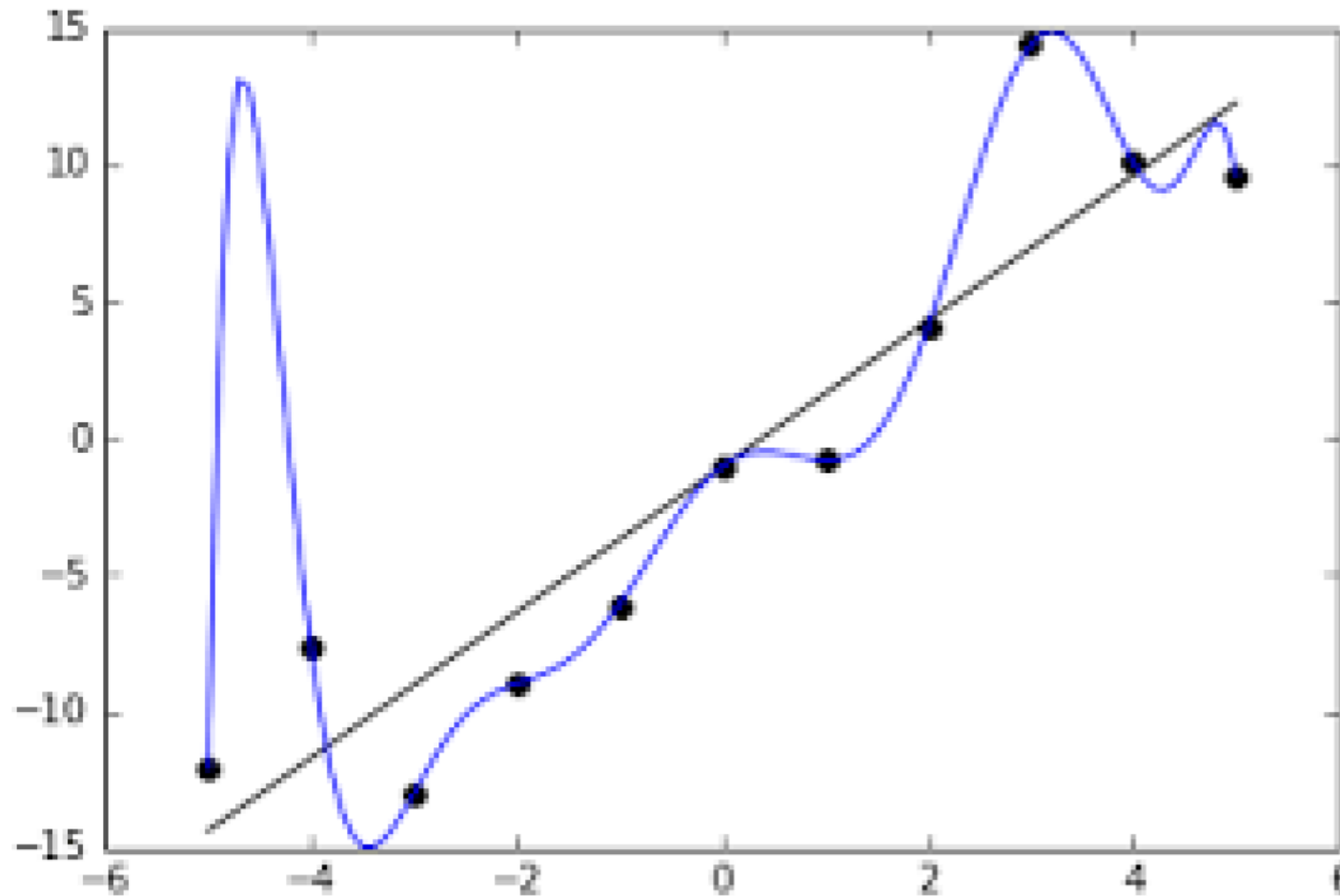# Does it work?

But does it really work?

Can a computer really pick out patterns?

Institute
and Faculty
of Actuaries

Yes, but it may not pick out outliers very well

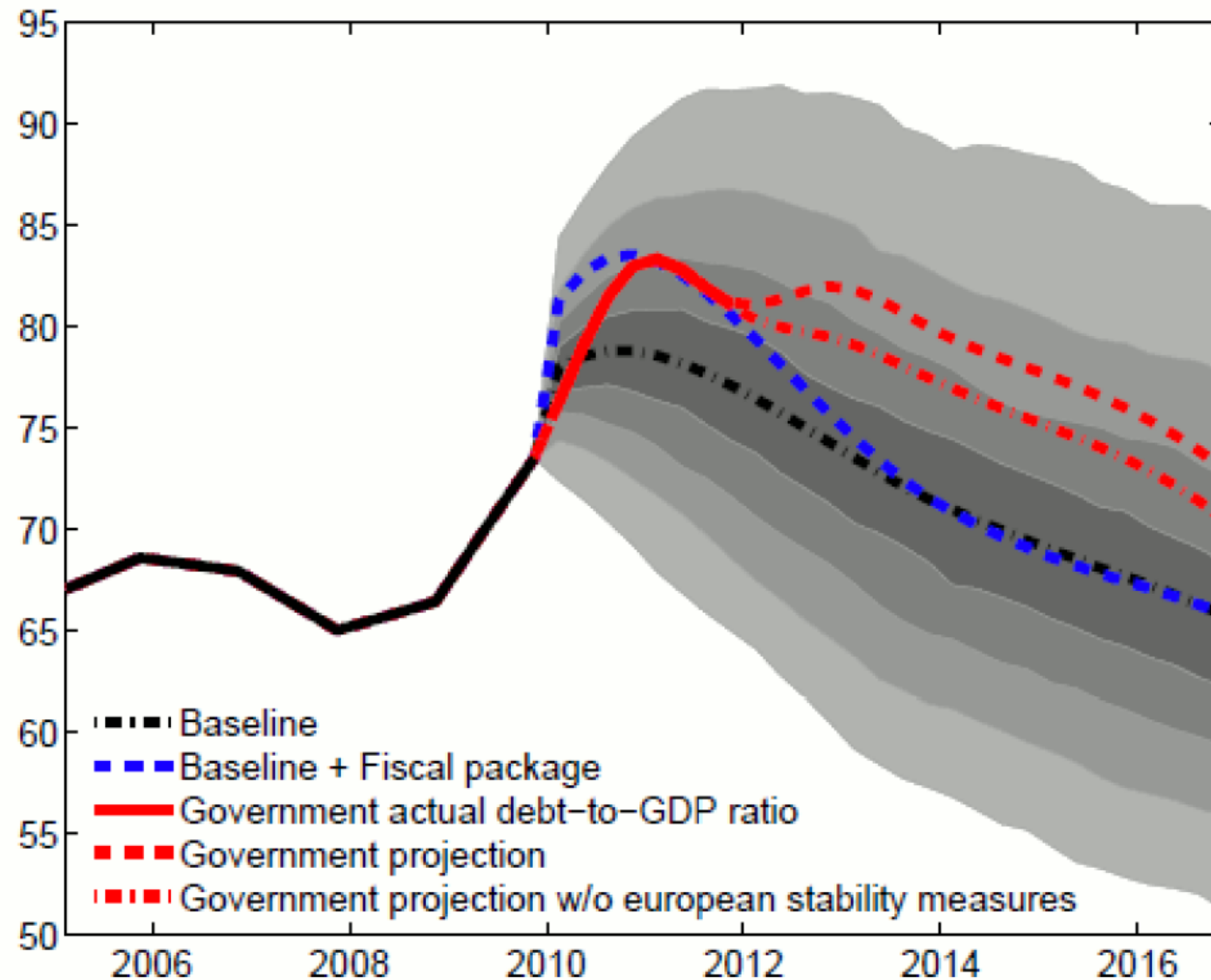# Over-fitting and outliers are big issues

The key is understanding out of sample predictive skill

Legend:
- ▬·▬· Baseline
- ▬ ▬ Baseline + Fiscal package
- ▬▬ Government actual debt–to–GDP ratio
- ▬ ▬ Government projection
- ▬·▬· Government projection w/o european stability measures

The Beer-Mat test – do we know why it works?

3

Expert Judgement vs big data

Questions

Comments

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.

The views expressed in this presentation are those of the presenter.