

# Measuring Affordability at Origination

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Credit Scoring and Credit Control XI, Edinburgh 2009

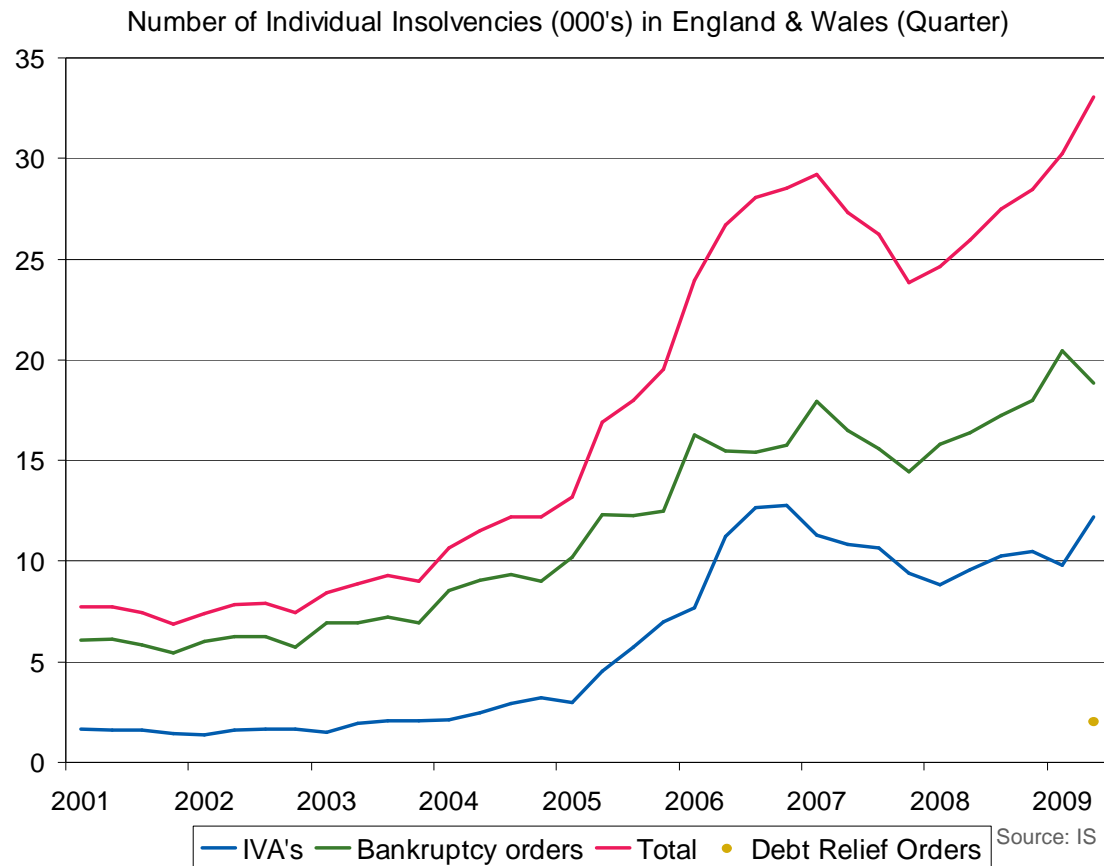
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# The Problem

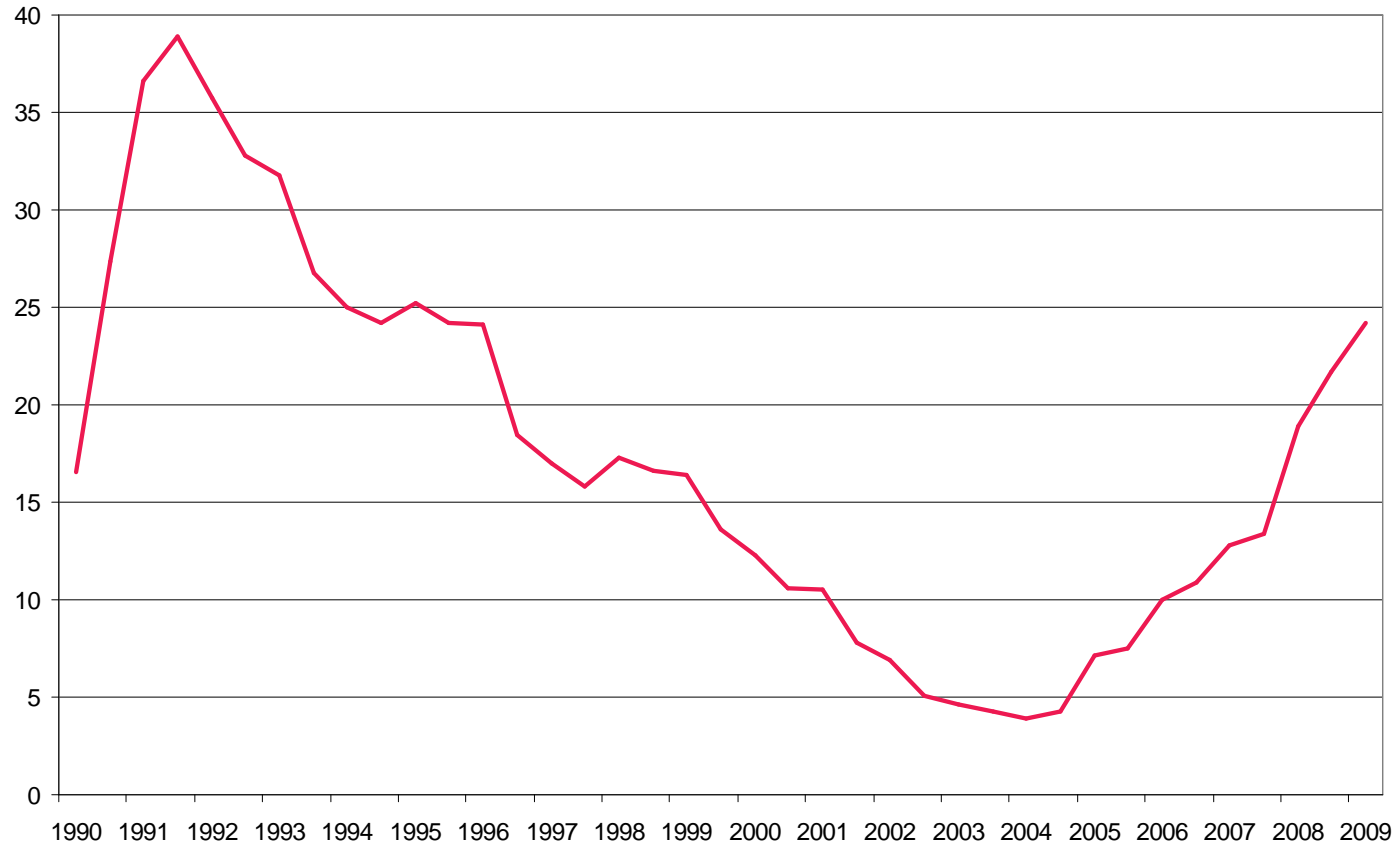
The number of people experiencing severe financial difficulties in the UK has grown significantly over recent years:

Rising levels of indebtedness and inability to re-finance products is now pushing levels of insolvency higher than ever before



# The Problem

Mortgage Repossessions (000's) in UK (Half Year)



Source: CML

# The Problem

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Credit scoring tends to focus on individuals' 'propensity to pay' rather than 'ability to pay'.

Lenders want to incorporate a reliable affordability check into their decision making process to complement their credit scores and policy rules.

# Measuring Affordability at Origination

## Agenda

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- Consumer Indebtedness Index
- Consumer Affordability Metrics
  - Maximum Estimated Income
  - Effective Disposable Income
  - Affordability Index
- A Global Solution

# Consumer Indebtedness Index (CII)

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- First released in 2003
- Well received by the credit industry
- Version 3 released
- Score-based index (1 - 90) representing bad rate
- Key contributors to having a high CII:
  - Excessive recent credit activity
  - High utilisation on revolving accounts
  - Arrears on accounts with high balances
  - Large number of accounts with non-zero balance

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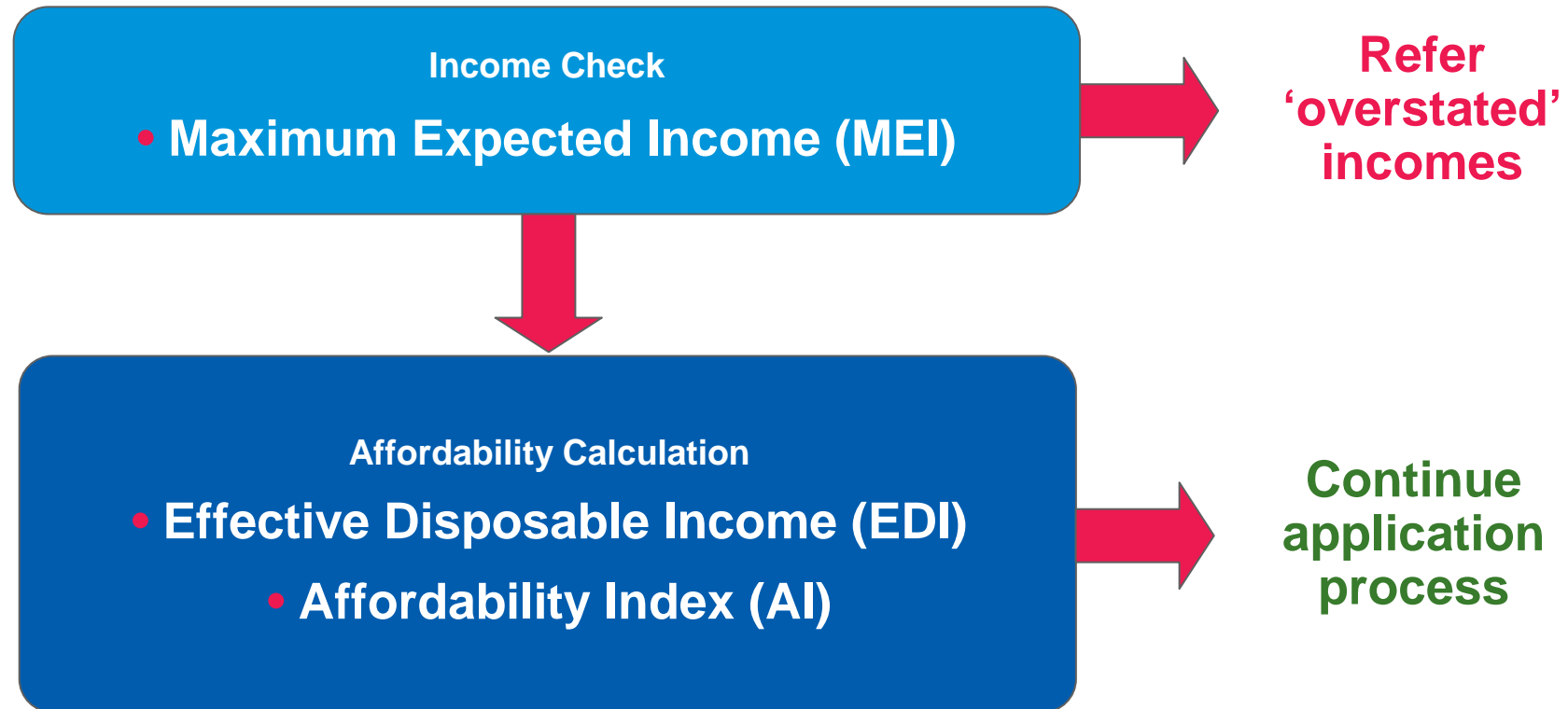
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  - Maximum Estimated Income
  - Effective Disposable Income
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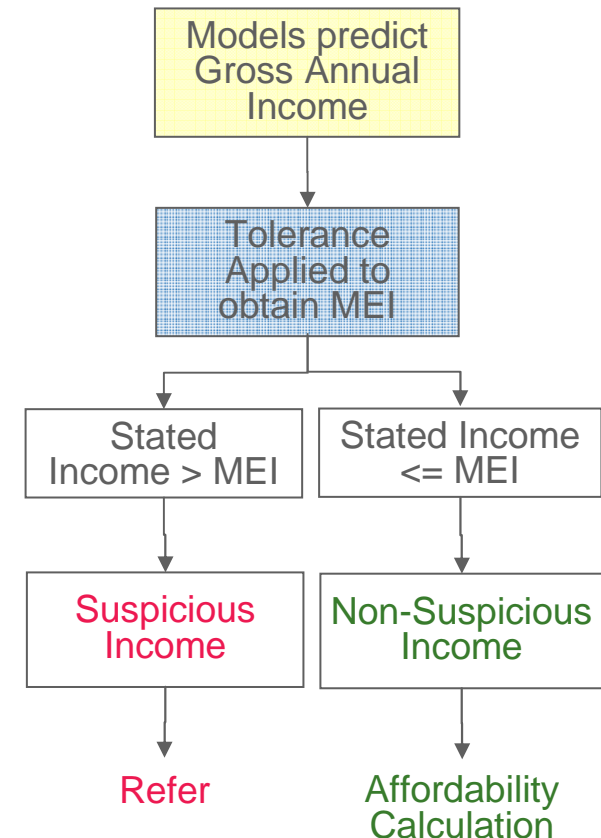
# Consumer Affordability Metrics

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# Maximum Expected Income (MEI)

- The MEI can be used to identify 'overstated' incomes over £30K
- Representing the top 25% of stated incomes the >£30K population was focussed on for several reasons:
  - Associated high exposure levels for these incomes
  - Difficult to predict lower incomes accurately given data available
- Sample made up of Loans, Cards & Mortgage applications
- Age segmentation used to ensure accurate income prediction ( $\leq 30$ ,  $> 30$  split)
- Tolerance used to obtain MEI can be calibrated to alter the referral rate



# Maximum Expected Income (MEI)

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## Key Scorecard Characteristics

Balance of non-revolving accounts (excluding mortgage)

Balance of mortgage account

Total monthly payments

Highest revolving credit limit

Employment type

Employment status

Region

# Effective Disposable Income (EDI) – Components

## Net Monthly Income (NMI)

From application data

## Monthly Mortgage/Rent (MMR)

From credit bureau, application data or estimated\*

## Monthly Credit Commitments (MCC)

From credit bureau

## Monthly Expenditure\* (MEX)

From ONS data and uses a combination of gross monthly income and household composition (i.e. number of adults and dependants)

\* Based on the Office for National Statistics (ONS) Expenditure & Food Survey

$$\text{EDI} = \text{NMI} - \text{Monthly Outgoings} ( f \{ \text{MMR}, \text{MCC}, \text{MEX} \} )$$

# EDI – ONS Expenditure & Food Survey Data

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- Data from financial year April 2005 – March 2006
- Data from calendar years 2006 & 2007 are very similar
- 12,071 Households selected in UK
- 6,785 Households responded (56%)
- 4 Main household compositions used as basis

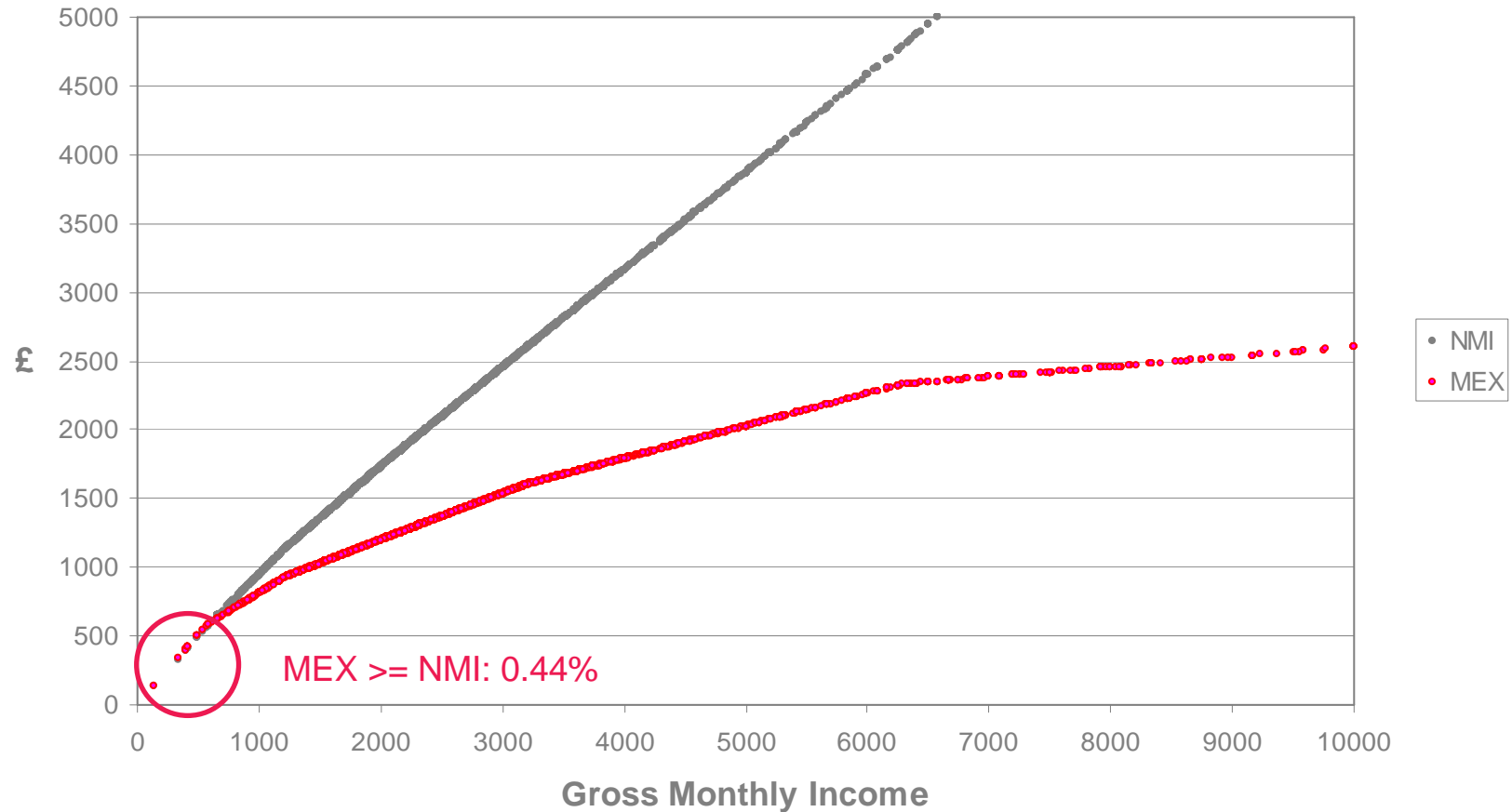


# EDI – Expenditure For Multiple Dependants



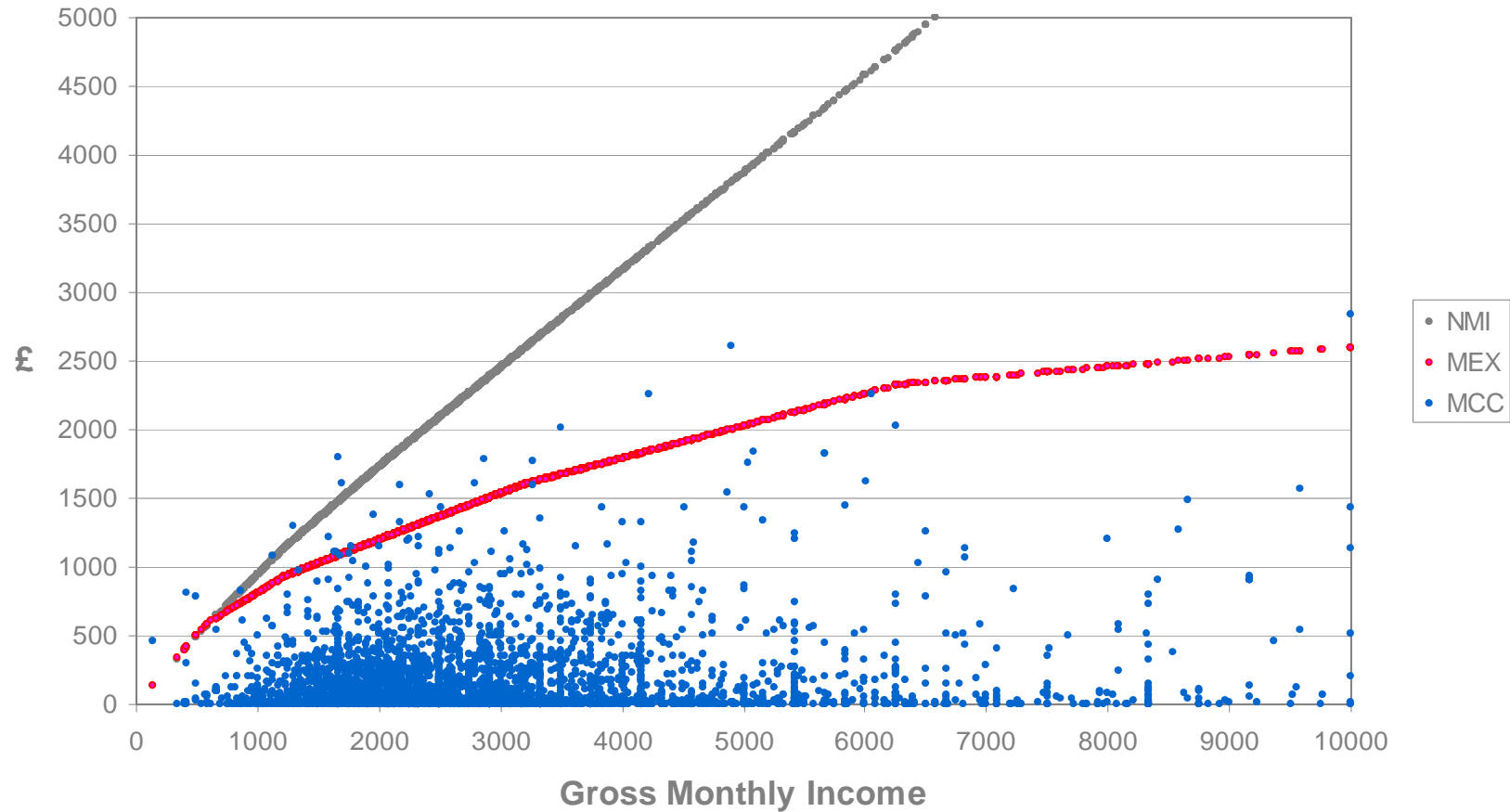
# EDI – Calculation Example (Mortgage)

## Single – 0 Dependants ONS Expenditure



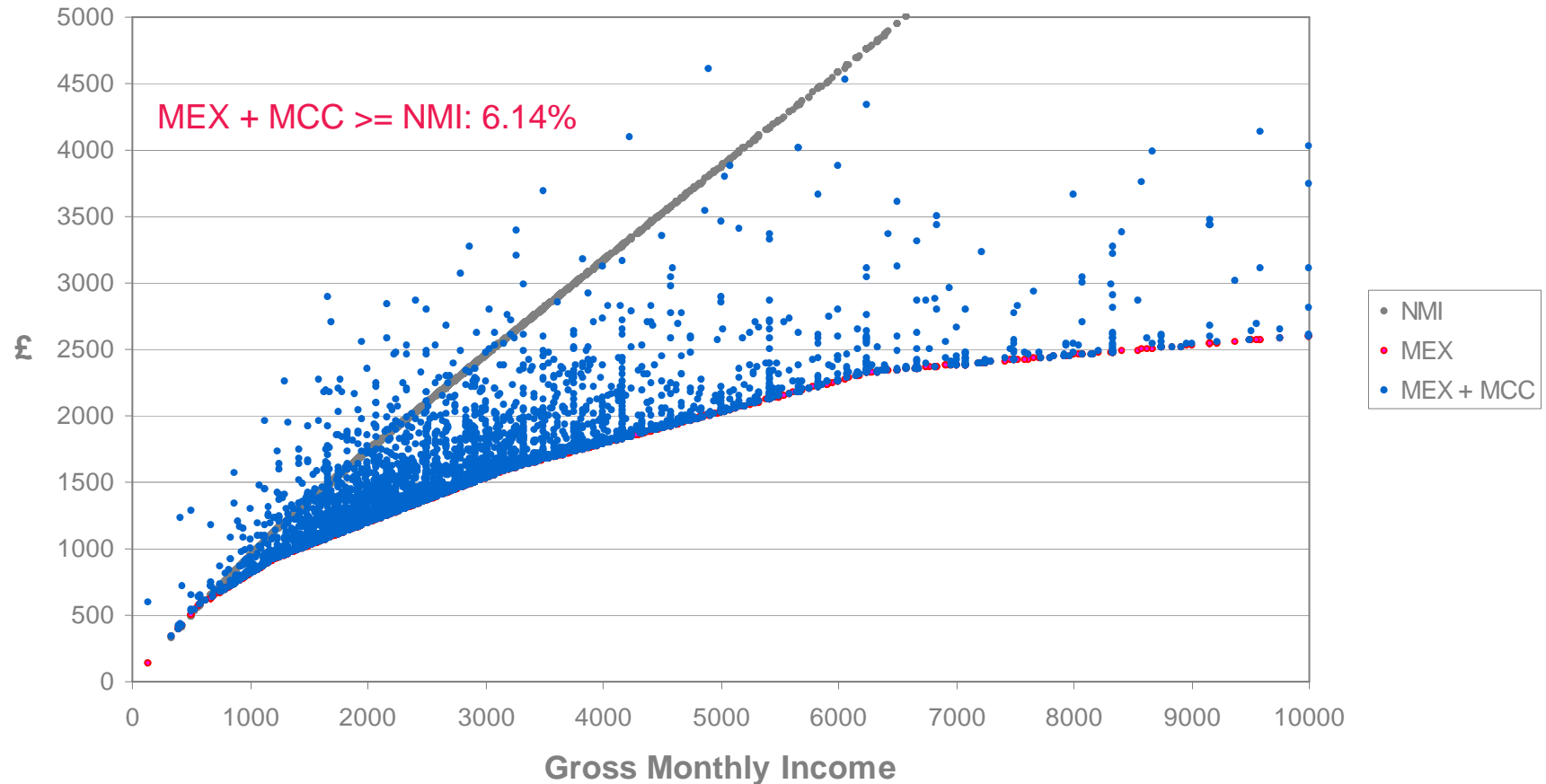
# EDI – Calculation Example (Mortgage)

## Monthly Credit Commitments



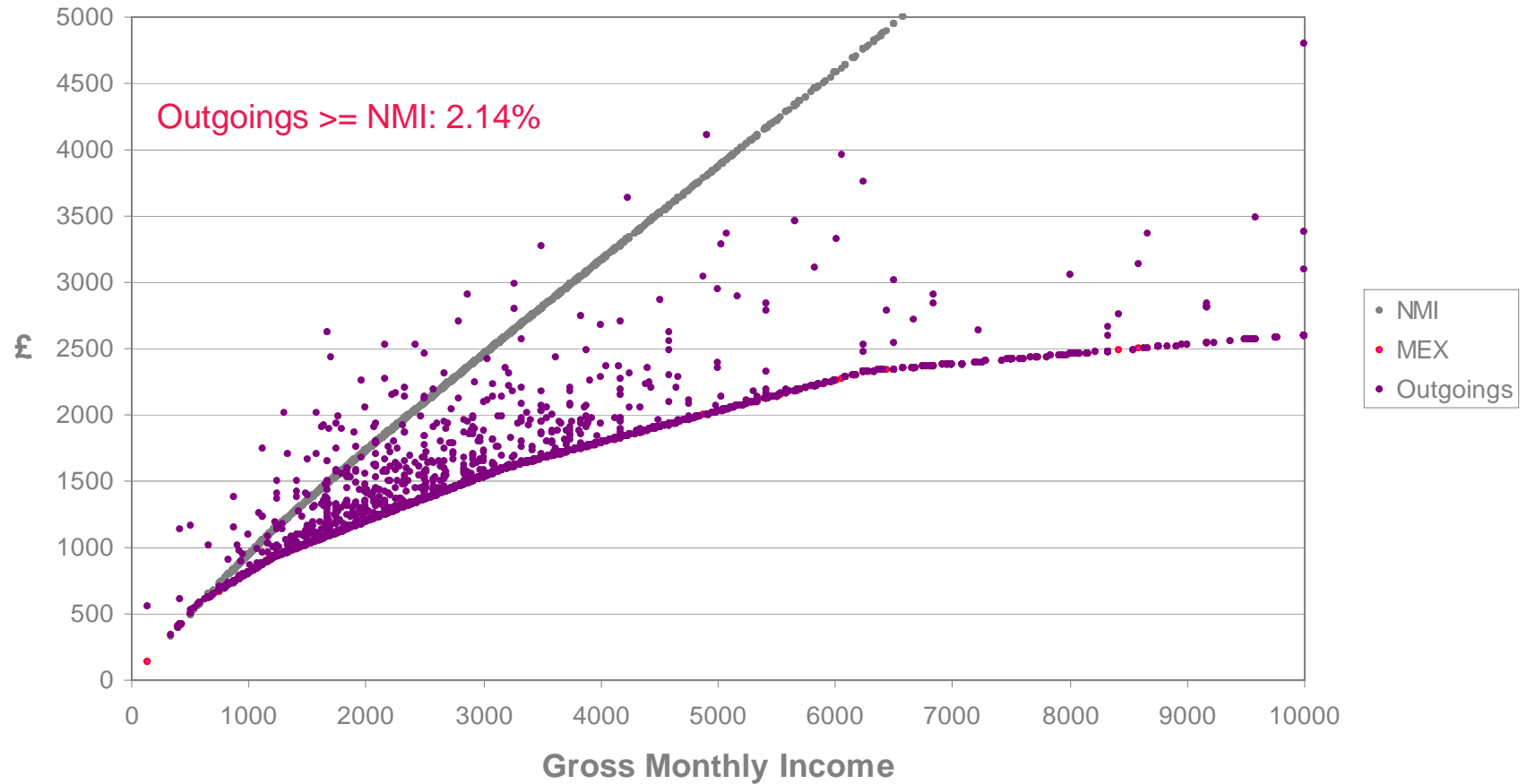
# EDI – Calculation Example (Mortgage)

## ONS Expenditure + Monthly Credit Commitments



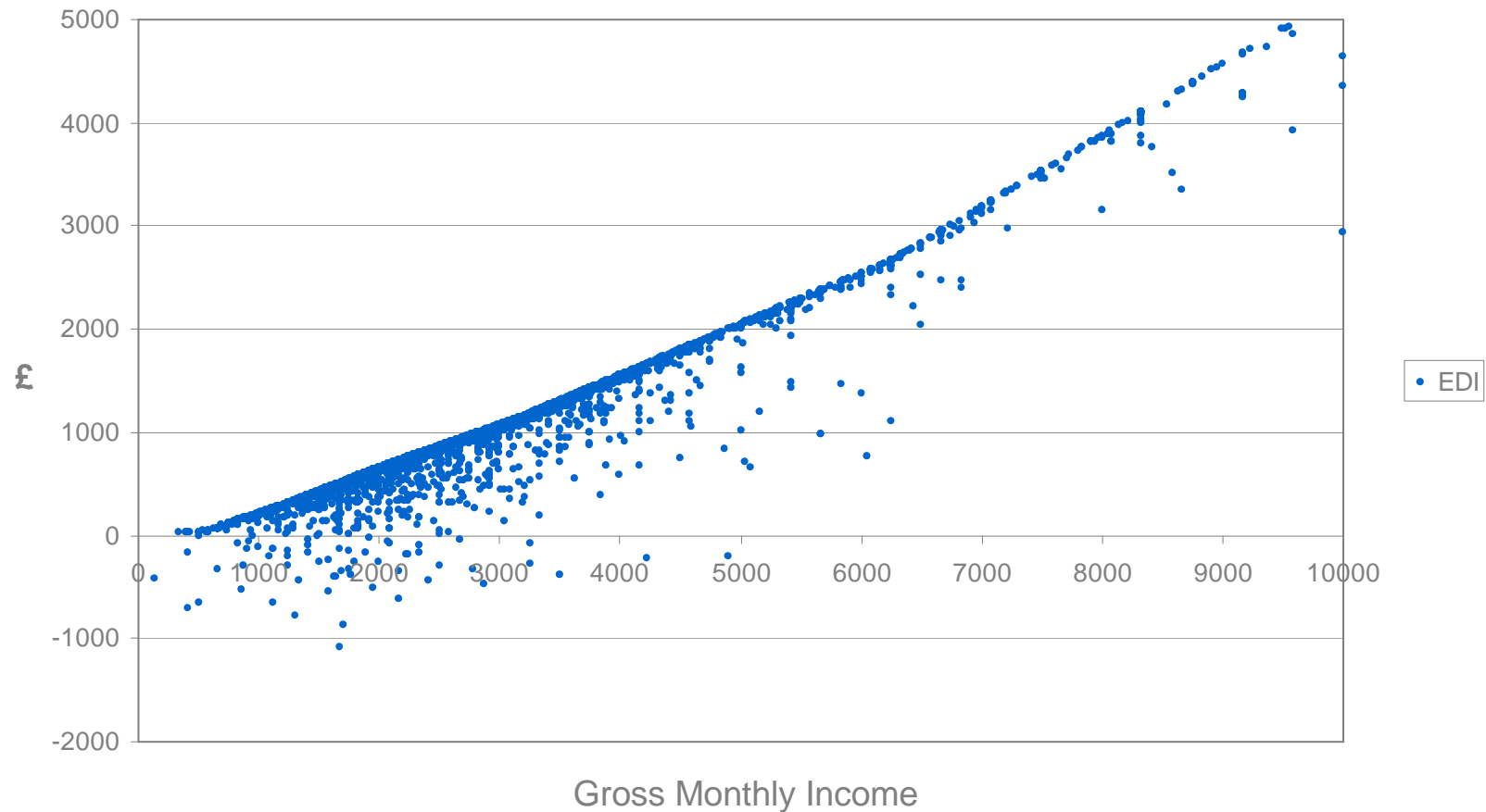
# EDI – Calculation Example (Mortgage)

## Total Outgoings

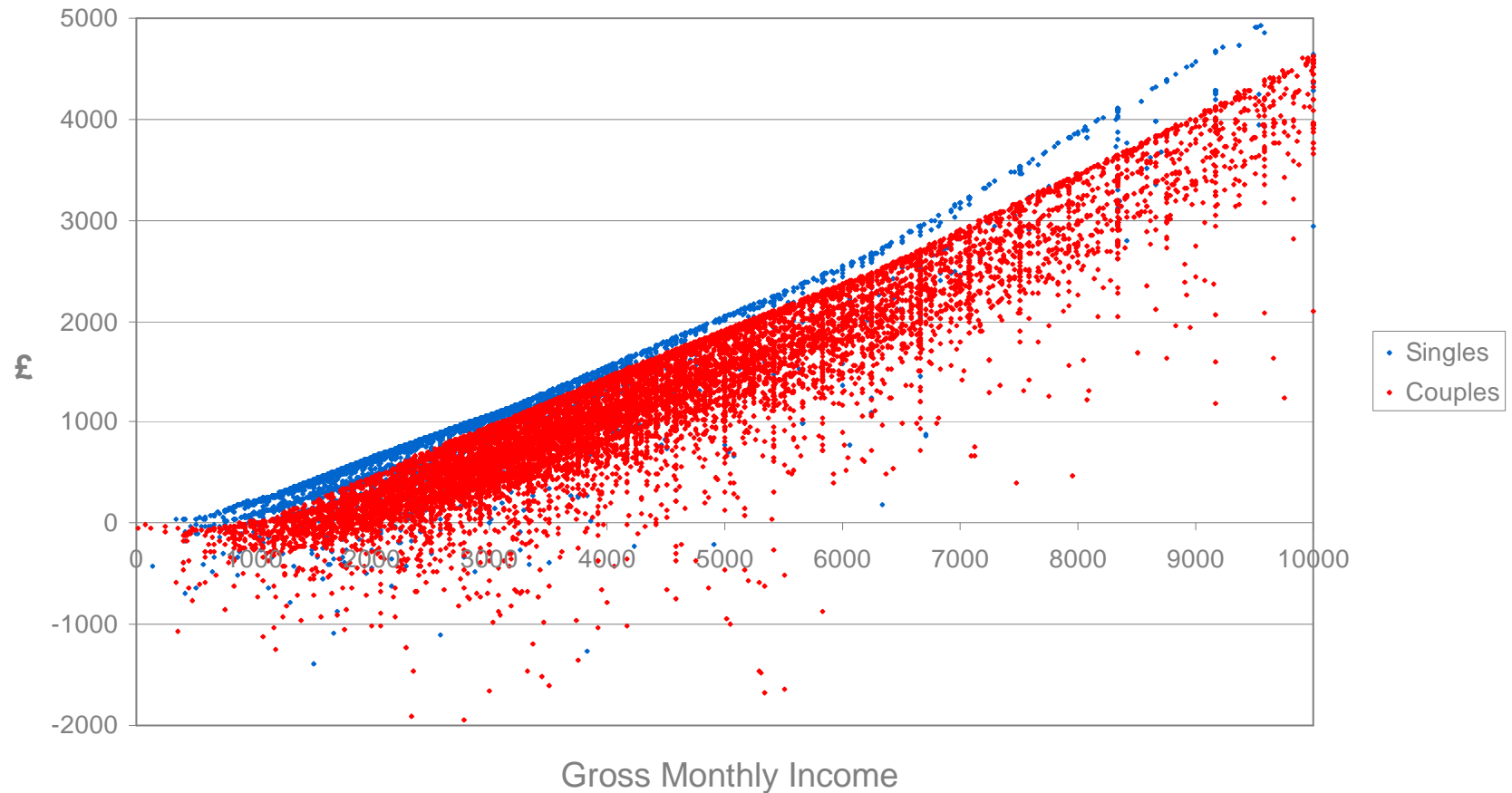


# EDI – Calculation Example (Mortgage)

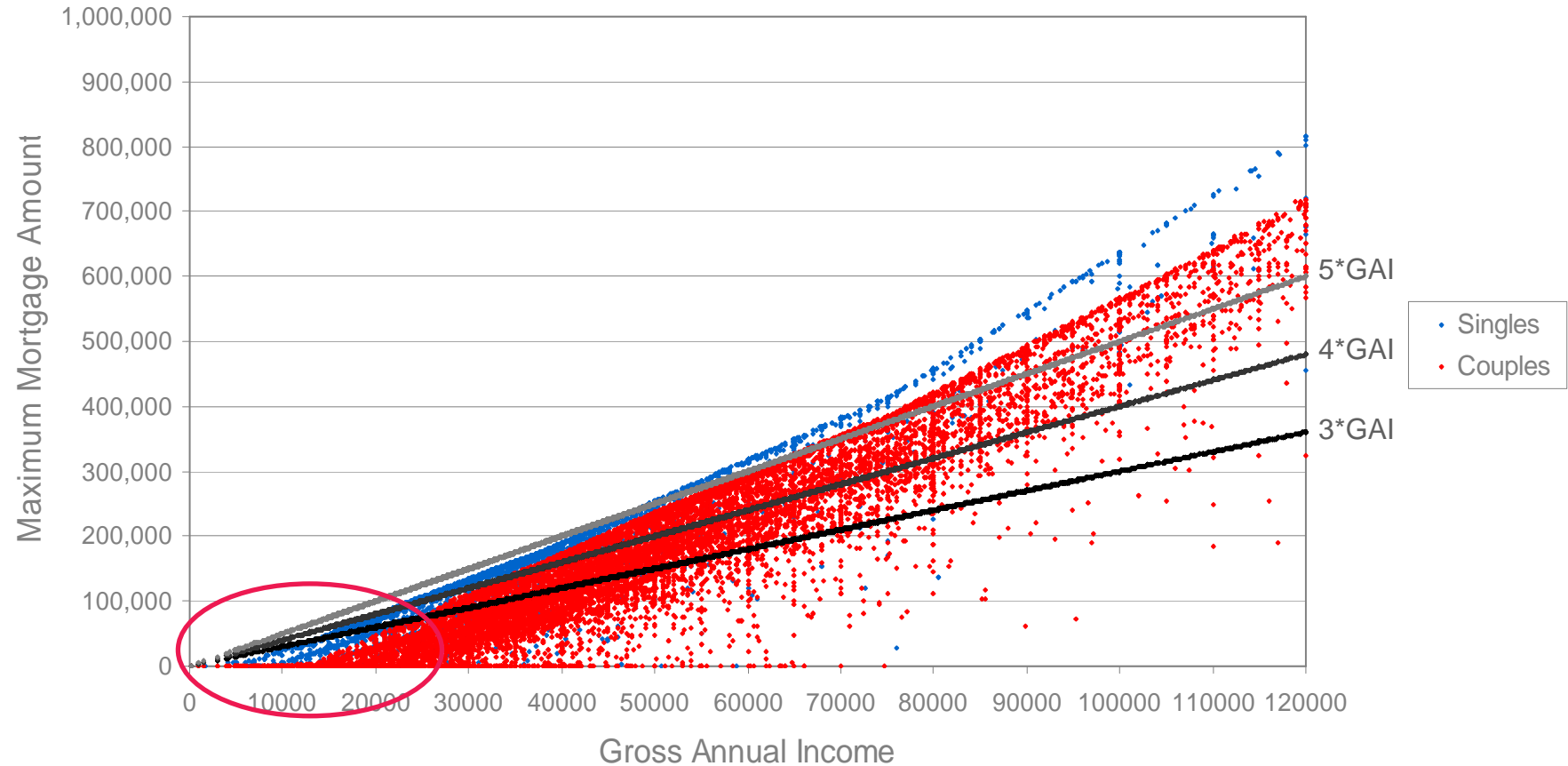
## EDI (Single – 0 Dependants)



# EDI – Total Mortgage Sample



# EDI – Maximum Mortgage Amount

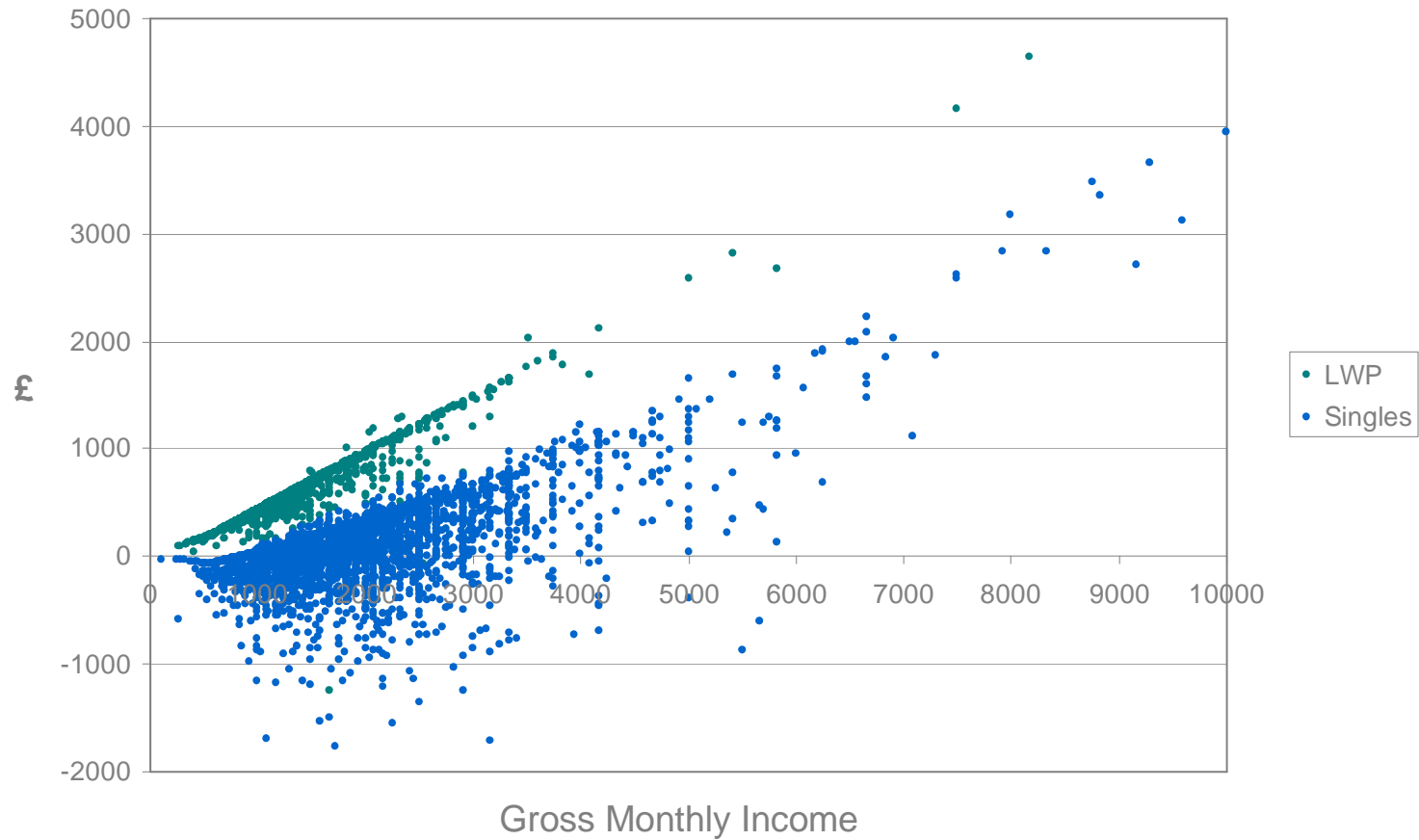


# EDI – Mortgage Application Example

Compare current approach (e.g. Income multipliers) to the use of EDI, by range of LTV

Range of EDI	% Band	Average Loan Amount Requested	Current Approach		EDI Based Approach	
			Ave. Max. Loan Amount	Loan Requested < Max (%)	Ave. Max. Loan Amount	Loan Requested < Max (%)
Low – 385	5.00	64,171	69,653	<b>78.44</b>	31,128	<b>20.63</b>
386 – 604	4.99	63,361	83,412	<b>82.25</b>	77,228	<b>73.17</b>
...	...	...	...	...	...	...
4311 – 5595	4.98	204,561	396,462	<b>98.01</b>	754,933	<b>100.00</b>
5596 – High	5.02	256,004	837,774	<b>100.00</b>	975,973	<b>100.00</b>
<b>Total</b>	<b>100.00</b>	<b>116,216</b>	<b>213,745</b>	<b>89.78</b>	<b>345,146</b>	<b>93.74</b>

# EDI – Loan Sample



# Affordability Index (AI)

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The AI scorecards use Experian's Consumer Indebtedness Index (CII) as the basis and use the following additional characteristics:

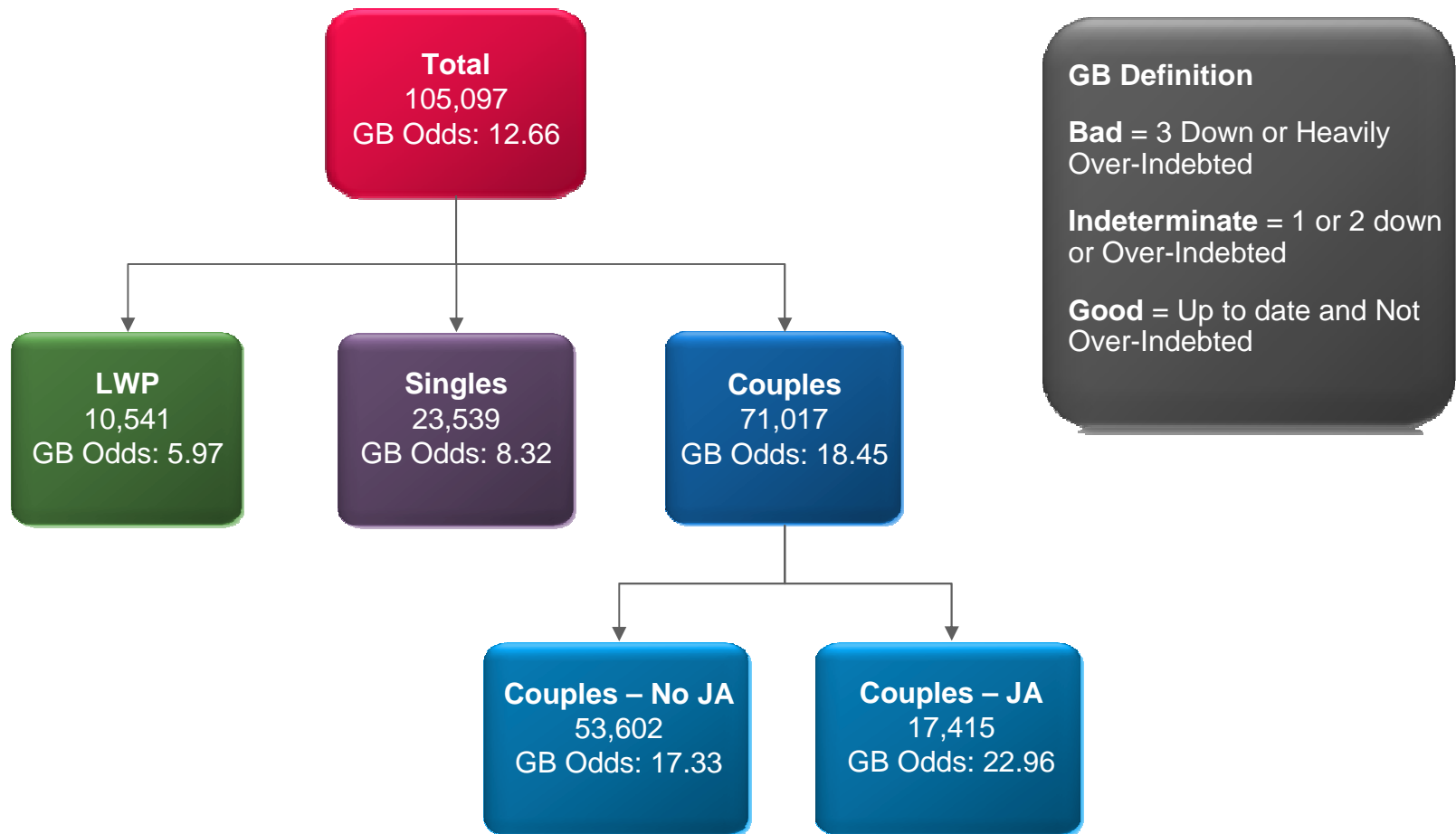
## Affordability Characteristics

- EDI as % NMI
- Monthly Credit Commitments as % NMI
- Monthly CAIS mortgage payment as % NMI
- Total amount of credit being applied for as % GAI
- Debt consolidation amount as % GAI
- 'Age of highest earner Vs number of dependants'

## Consumer Behavioural Characteristics

- Marital Status
- Accommodation Status
- Time at Address
- Time at Bank
- Time at Employer
- Current Account Held
- Employment Type

# AI – Scorecard Segmentation



# AI – Distribution

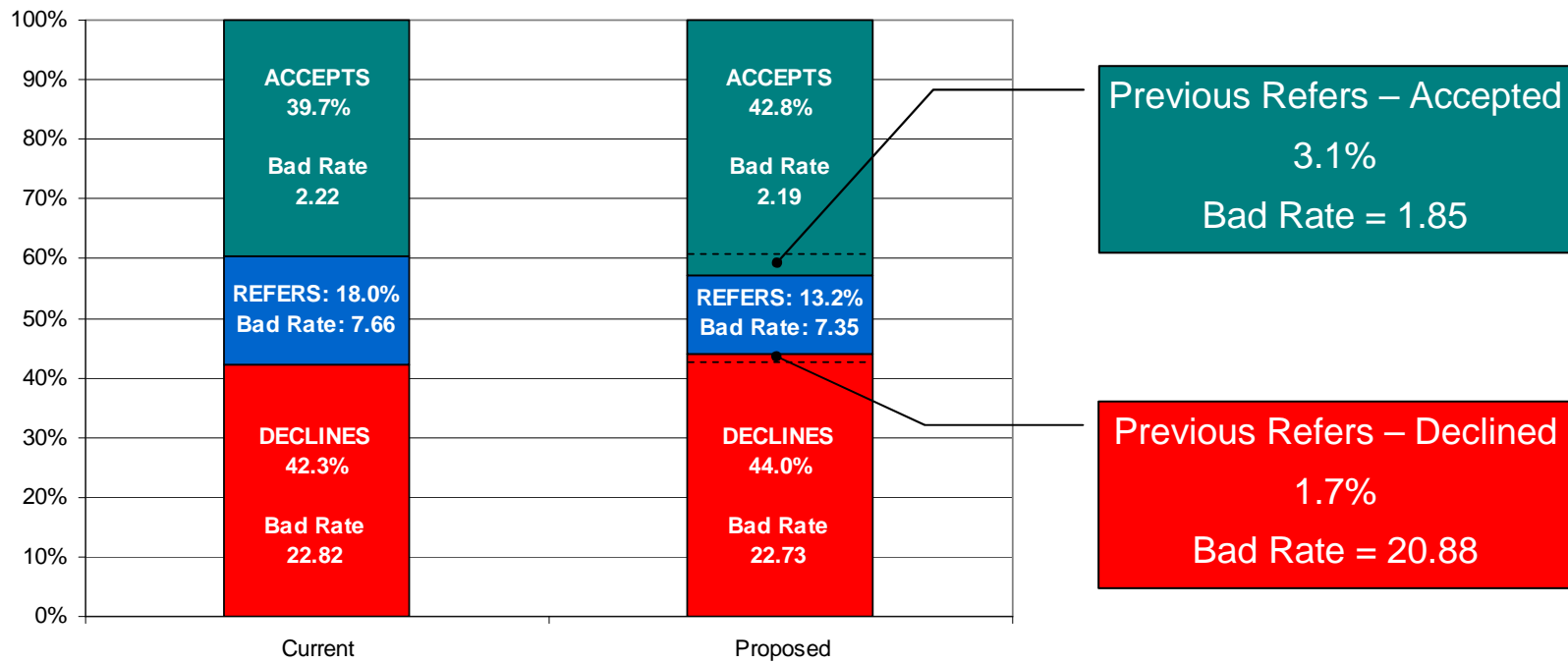
- The AI is calibrated to predict an expected ‘good rate’

AI	Good Rate	Population %
30	28	5
45	43	5
60	60	12
70	69	12
75	75	20
80	80	20
85	86	12
90	90	12

- Development Sample Gini coefficient = 71.7 (CII = 64.6)
- 0 is a default value returned for 2% of applications, with either:
  - Low NMI (<£250)
  - CAIS mortgage payment greater than 75% of NMI
  - Main applicant is a student less than 30 years old



# AI – Loans Example



- Reduction in referrals of 27%
- Reduction in bad debt of 12.5%
- Increase in declines of 2%

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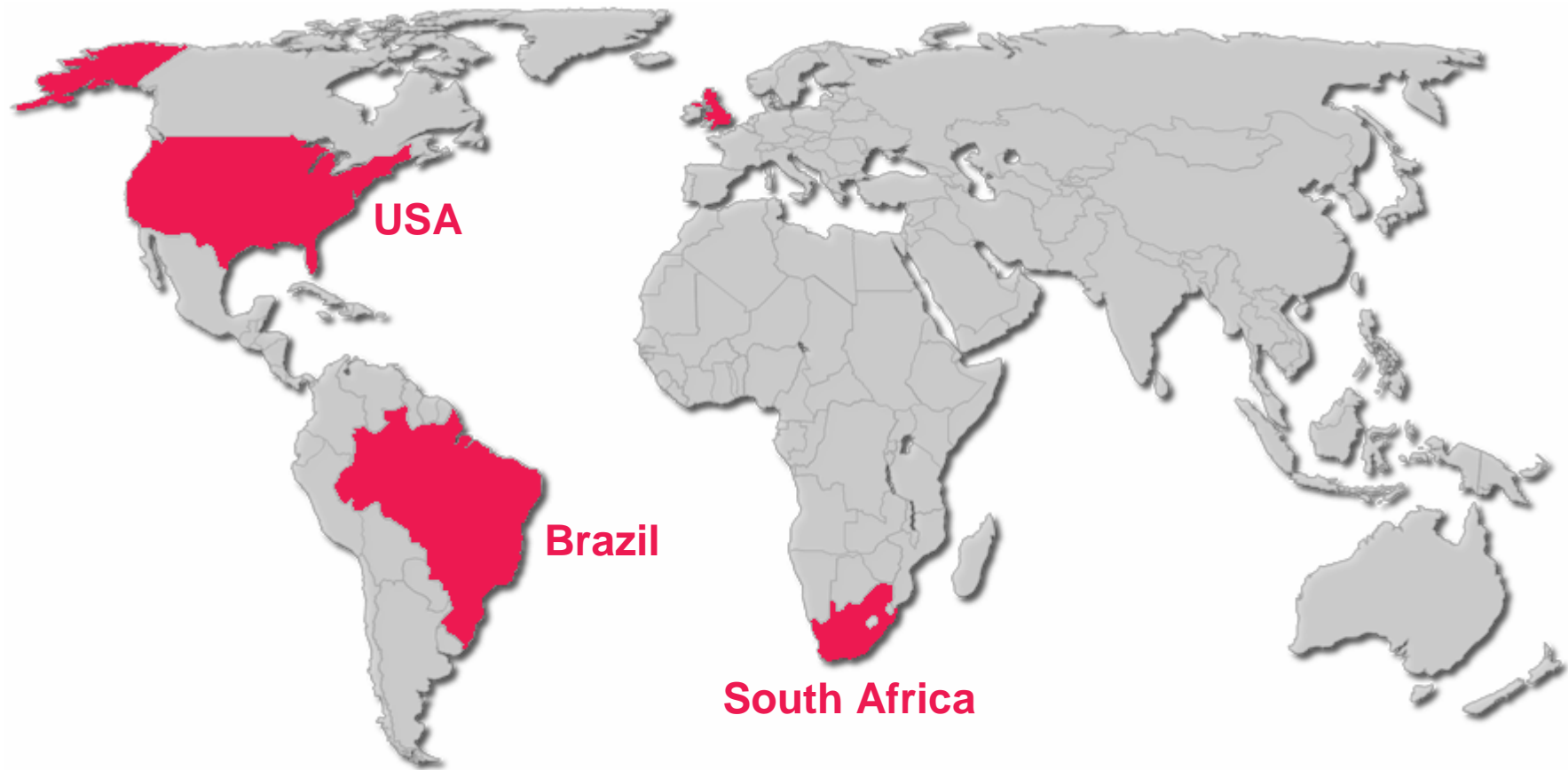
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# A Global Solution

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**Affordability is a significant, global problem**

**Experian's Consumer Affordability Metrics provide lenders with:**

- **An automated 'ability to pay' check**
- **Better decision making**
- **Direct evidence of responsible lending**

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