What do we about Credit Unions in Barbados?
Objectives

- Establish the topology
- Review trends
- Reviewing the regulatory framework
Motivation
Focus on Financial Stability

Principles-Based Regulatory Framework

- Sets down principles governing particular areas of concern
- Sets out compliance expectations based on expected outcomes
- Effective monitoring
Selected Studies

Within the Caribbean only a few studies on credit unions are readily available:

• **Hinds and Chase (1997)** “Credit Unions in Barbados: a case for enhance regulation”
• **Belgrave et al. (2002)** “Commercial Banks and Credit Unions: An Empirical Investigation”
• **Moore W. (2003)** “Determinants of Credit Union Efficiency in Barbados.”
• **Moore W. (2005)** “Is Efficiency Imperative for the Growth of the Barbados Credit Union Industry?”
• **Griffith et al. (2009)** “The Contribution of Credit Unions to the National Development of Barbados”
• **McKillop and Quinn (2017)** “Irish credit unions: Differential regulation based on business model complexity”
• **Van den End (2016)** “A macro-prudential approach to address liquidity risk with the loan-to-deposit ratio”
Assets

- Trinidad & Tobago (d)
- Suriname (a)
- St. Vincent & the Grenadines (d)
- St. Lucia (d)
- St. Kitts & Nevis (d)
- Montserrat (d)
- Jamaica
- Haiti (a,e)
- Guyana (d)
- Grenada (d)
- Dominican Republic
- Dominica (d)
- Curacao (d)
- Cayman Islands (d)
- Bermuda (d)
- Belize
- Barbados
- (The) Bahamas (d)
- Antigua & Barbuda (d)
Penetration

- Trinidad & Tobago (d)
- Suriname (a)
- St. Vincent & the Grenadines (d)
- St. Lucia (d)
- St. Kitts & Nevis (d)
- Montserrat (d)
- Jamaica
- Haiti (a,e)
- Guyana (d)
- Grenada (d)
- Dominican Republic
- Dominica (d)
- Curacao (d)
- Cayman Islands (d)
- Bermuda (d)
- Belize
- Barbados
- (The) Bahamas (d)
- Antigua & Barbuda (d)
Credit Union Sector in Barbados
Credit Union Sector in Barbados
As at June

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
<th>2015</th>
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</thead>
<tbody>
<tr>
<td>Number of credit unions</td>
<td>33</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>Total Assets (billion)</td>
<td>2.13</td>
<td>1.97</td>
<td>1.82</td>
</tr>
<tr>
<td>Total Loans (billion)</td>
<td>1.58</td>
<td>1.47</td>
<td>1.39</td>
</tr>
<tr>
<td>Total Deposits (billion)</td>
<td>1.83</td>
<td>1.68</td>
<td>1.52</td>
</tr>
<tr>
<td>Capital Ratio</td>
<td>11.76%</td>
<td>11.66%</td>
<td>11.51%</td>
</tr>
<tr>
<td>Profitability</td>
<td>3.1%</td>
<td>2.6%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>
# Credit Union Sector Summary

**Categorized by Asset Size as at June 2017**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Credit Unions</th>
<th>Asset Size</th>
<th>Number of members</th>
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</thead>
<tbody>
<tr>
<td>Greater than $40m</td>
<td>7</td>
<td>92.5</td>
<td>178,074</td>
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<tr>
<td>$10m to $40m</td>
<td>6</td>
<td>5.1</td>
<td>4,932</td>
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<tr>
<td>Less than $10m</td>
<td>20</td>
<td>2.4</td>
<td>7,577</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
<td><strong>100</strong></td>
<td><strong>190,583</strong></td>
</tr>
</tbody>
</table>
McKillop and Quinn (2017) ... Differential regulation based on business model complexity

- Adopting a technique which uses credit union characteristics to provide insight into both the likelihood of a multi-class model and the optimal number of classes.

- Focus on modelling the structural business model of a credit union as a production technology using an enhanced hyperbolic distance function.

  - *This distance function is to be estimated parametrically using a stochastic frontier approach (Aigner, Lovell, & Schmidt, 1977; Battese & Corra, 1977; Nahn & Vu, 2013).*
<table>
<thead>
<tr>
<th>Data</th>
<th>Model Outputs</th>
<th>Model Inputs</th>
<th>Financial Viabilities</th>
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<tbody>
<tr>
<td></td>
<td>Y1</td>
<td>X1</td>
<td>ROA</td>
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<td></td>
<td>Risk adjusted loans</td>
<td>Labour expense</td>
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<td></td>
<td>Y2</td>
<td>X2</td>
<td>CAR</td>
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<td></td>
<td>Risk adjusted earning assets</td>
<td>Physical capital expenditure</td>
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<td></td>
<td>Y3</td>
<td>X3</td>
<td>L/A</td>
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<td>Shares &amp; deposits</td>
<td>Interest expense</td>
<td>Proportion on loans to assets</td>
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<tr>
<td></td>
<td>b</td>
<td>t</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bad debt proxy</td>
<td>Trend variable</td>
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<tr>
<td></td>
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</tr>
</tbody>
</table>
Key considerations included in the this proposal that can provide enhancements to Moore 2005

1. In the context of a CU one appealing feature of the distance function is that it allows for the description of the structural business model without the need for behavioural assumptions. Very important as given not-for-profit nature of CU (Bauer, 2008).

2. Due to size differences and divergent lines... latent clustering may emerge... if ignored, misinterpretations on improvements or reductions can result. Further calculating the economies of scale becomes unreliable (Orea & Kumbhakar, 2004).
Macro-prudential Regulation for CU

Key finding Mckillop & Quinn

• Our results, which have identified three classes of business model complexity, support the Commission's conclusion that a common regulatory framework for all credit unions is inappropriate.
Five Pillars of Risk Assessment

Early Warning Indicators
Risk Assessment Report
Stress Testing
Crisis Management
Cross Border Supervision
Macro-prudential Regulation for CU

Early Warning Indicators

Four (4) Components

• Capital Adequacy

• Asset Quality

• Liquidity

• Earnings