KEMENTERIAN PENDIDIKAN TINGGI, SAINS, DAN TEKNOLOGI
UNIVERSITAS SEBELAS MARET
Jalan Insinyur Sutami Nomor 36A Kentingan Surakarta 57126
Telepon (0271) 646994 Faksimile (0271) 646655
Laman http://uns.ac.id

Nomor : 4348.1/UN27/KP.09.04/2025
Lampiran : satu set
Perihal : Pelaksanaan Penilaian Usulan Kenaikan Jabatan Akademik Dosen ke Lektor Kepala dan Profesor Gelombang 3 Tahun 2025

24 September 2025

Yth. Dekan Fakultas/Sekolah
Universitas Sebelas Maret

Menyusuli surat Kami Nomor 3885/UN27/KP.09.04/2025 tanggal 02 September 2025 perihal Pengusulan Kenaikan Jabatan ke Lektor Kepala dan Profesor gelombang 3 tahun 2025 serta menindaklanjuti Surat Edaran dari Direktorat Jenderal Pendidikan Tinggi nomor 3265/B4/DT.04.01/2025 tanggal 23 September 2025 perihal Pelaksanaan Penilaian Usulan Kenaikan Jabatan Akademik Dosen ke Lektor Kepala dan Profesor Gelombang 3 Tahun 2025 dengan hormat kami informasikan bahwa:

1. Batas waktu pengusulan kenaikan Jabatan Akademik Dosen ke Lektor Kepala dan Profesor untuk gelombang III diterima Universitas paling lambat tanggal **04 Oktober 2025** melalui https://pak.uns.ac.id/.
2. Pemenuhan Laporan Beban Kinerja Dosen (BKD) yang digunakan:
   a. LKD BKD periode 2023/2024 Ganjil dan Genap; dan
   b. LKD BKD Periode 2024/2025 Ganjil dan Genap
3. Bagi usulan JAD Dosen yang memasuki BUP per 1 Desember 2025 hanya dapat mengusulkan usulan di periode reguler, dan dianjurkan untuk tidak mengajukan pensiun sampai keluar hasil penilaian JAD yang diusulkan;
4. Dimulai tahun 2026, batasan untuk usul kenaikan jabatan akademik dosen adalah satu tahun sebelum pensiun, sesuai surat edaran nomor 0510/B/DT.04.01/2025 tanggal 30 Juni 2025;
5. Angka kredit konversi periodik sudah dapat difasilitasi SISTER yang tersinkronisasi dengan aplikasi SIAIN. Dosen dapat melakukan update data di aplikasi SIASN;
6. Usulan seseorang menjadi Lektor Kepala dan Guru Besar/Profesor sebagai jabatan fungsional tertinggi bagi Dosen (angka 3 pasal 1 Undang-undang Guru dan Dosen) bukan hanya pemenuhan administrasi, namun juga evaluasi kepatutan yang bersangkutan menempati kedudukan Dosen (pasal 3 ayat 1 Undang-undang Guru dan Dosen), melaksanakan fungsi Dosen (pasal 5 Undang-undang Guru dan Dosen) dan tujuan kedudukan Dosen (pasal 6 Undang-undang Guru dan Dosen), sehingga Kementerian akan melakukan evaluasi holistik dari usulan maupun sumber lain yang formal seperti PDDikti, SINTA, situs perguruan tinggi yang bersangkutan, dan lain-lain.

Demikian surat ini disampaikan. Atas bantuan dan kerjasamanya diucapkan terima kasih.

a.n. Rektor
Wakil Rektor Bidang Sumber Daya,

Prof. Dr.E. Muhtar, S.Pd., M.Si., CFrA.
NIP 196612311994121001

Tembusan :
1. Rektor;
2. Ketua Senat Akademik Universitas;
3. Ketua Dewan Profesor;
4. Ketua Tim KIA.

Lampiran
Nomor :4348/UN27/KP.09.04/2025
Tanggal : 24 September 2025

Linimasa pelaksanaan kenaikan jabatan Dosen (Lektor Kepala dan Guru Besar) Gelombang III

No	Keterangan	Waktu
1	Persiapan, penilaian dan pengajuan usulan oleh Fakultas/Sekolah	24 September - 04 Oktober 2025
2	Penilaian usulan oleh Tim KIA	24 September - 05 Oktober 2025
3	Sidang Pleno Tim KIA	06 Oktober 2025
4	Presentasi bagi usulan Guru Besar oleh Komisi DP	07 Oktober 2025
5	Sidang Pleno Dewan Profesor	08 Oktober 2025
6	Sidang Pleno Senat Akademik Universitas	09 Oktober 2025
7	Penyiapan dokumen administrasi dan pengajuan di SISTER oleh Operator PAK Fakultas dan Universitas	24 September – 10 Oktober 2025

BAHAN RAPAT PLENO

KECUKUPAN PEROLEHAN ANGKA KREDIT

KENAIKAN JABATAN FUNGSIONAL **LEKTOR KEPALA**

Nama	Tastaftiyan Risfandy, S.E., M.Sc., Ph.D.
NIP	198704142019031010
Fakultas/Prodi	Fakultas Ekonomi dan Bisnis | S-1 Bisnis Digital
Golongan Ruang/Jabatan Fungsional	III/d | Lektor
Jenis Kenaikan	Kenaikan Jabatan Peralihan Lektor ke Lektor Kepala
Angka Kredit Minimal Yang Dibutuhkan (Baru)	0

#	KUM	AK SAAT INI	AK DIPERLUKAN	KETERANGAN	KURANG/CUKUP
1	A	0	0	0	Cukup
2	B	0	0.0	Minimal 0 = **0.0 AK**	Cukup
3	C	24	0.0	Minimal 0 = **0.0 AK**	Cukup
4	D	0	0	Minimal **0 AK** dan Paling Banyak <= **0.0 AK**	Cukup
5	E	0	0	Minimal **0 AK** dan Paling Banyak <= **0.0 AK**	Cukup
	TOTAL	**24**			

KEMENTERIAN PENDIDIKAN TINGGI, SAINS, DAN TEKNOLOGI
UNIVERSITAS SEBELAS MARET

KONVERSI PREDIKAT KINERJA KE ANGKA KREDIT
JABATAN FUNGSIONAL LEKTOR
NOMOR . 953/UN27.04/KP.15/2025

Instansi :
Kementerian Pendidikan Tinggi, Sains, dan Teknologi

Periode :
Januari 2024 s.d Desember 2024

PEJABAT FUNGSIONAL YANG DINILAI		
1	Nama	: Tastaftiyan Risfandy
2	NIP	: 198704142019031010
3	Nomor Seri Karpeg	: B 00063520
4	Tempat/Tgl. Lahir	: Boyolali / 14 April 1987
5	Jenis Kelamin	: Laki Laki
6	Pangkat/Golongan Ruang/TMT	: Penata Tingkat I / III/d / 01 Oktober 2024
7	Jabatan/TMT	: Lektor / 01 April 2022
8	Unit Kerja	: S-1 Bisnis Digital / Fakultas Ekonomi dan Bisnis
9	Instansi	: Universitas Sebelas Maret

KONVERSI PREDIKAT KINERJA KE ANGKA KREDIT			
Hasil Penilaian Kinerja		Koefien per tahun	Angka Kredit yang didapat
PREDIKAT	PROSENTASE		(Kolom 2 x kolom 3)
(1)	(2)	(3)	(4)
SANGAT BAIK	150%	25.00	37.5

Ditetapkan di Surakarta
Pada tanggal 02 Januari 2025
Pejabat Penilai Kinerja
Dekan Fakultas Ekonomi dan Bisnis,

Prof. Bhimo Rizky Samudro, S.E., M.Si,. Ph.D.
NIP 198003142006041003

Tembusan disampaikan kepada:
1. Pejabat Fungsional yang bersangkutan
2. Pimpinan Unit Kerja
3. Kepala Biro USDM UNS
4. Pejabat lain yang dianggap perlu

KEMENTERIAN PENDIDIKAN TINGGI, SAINS, DAN TEKNOLOGI
UNIVERSITAS SEBELAS MARET

AKUMULASI ANGKA KREDIT
JABATAN FUNGSIONAL LEKTOR
NOMOR . 954/UN27.04/KP.15/2025.

Instansi :
Kementerian Pendidikan Tinggi, Sains, dan Teknologi

Masa Penilaian :
sampai dengan Desember 2024

I	KETERANGAN PERORANGAN		
	1	Nama	: Tastaftiyan Risfandy
	2	NIP	: 198704142019031010
	3	Nomor Seri Karpeg	: B 00063520
	4	Tempat/Tanggal Lahir	: Boyolali / 14 April 1987
	5	Jenis Kelamin	: Laki Laki
	6	Pangkat/Golongan Ruang/TMT	: Penata Tingkat I / III/d / 01 Oktober 2024
	7	Jabatan/TMT	: Lektor / 01 April 2022
	8	Unit Kerja	: S-1 Bisnis Digital / Fakultas Ekonomi dan Bisnis - Universitas Sebelas Maret

KONVERSI PREDIKAT KINERJA KE ANGKA KREDIT

HASIL PENILAIAN KINERJA				Koefien per tahun	Angka Kredit yang didapat
TAHUN	PERIODIK (BULAN)	PREDIKAT	PROSENTASE		
(1)	(2)	(3)	(4)	(5)	(6)
2022	AK INTEGRASI			0	310.49
2023	JANUARI-DESEMBER	SANGAT BAIK	150%	25	37.5
2024	JANUARI-DESEMBER	SANGAT BAIK	150%	25	37.5
JUMLAH ANGKA KREDIT YANG DIPEROLEH					**385.49**

Ditetapkan di Surakarta
Pada tanggal 02 Januari 2025
Pejabat Penilai Kinerja
Dekan Fakultas Ekonomi dan Bisnis,

Prof. Bhimo Rizky Samudro, S.E., M.Si,. Ph.D.
NIP.198003142006041003

Tembusan disampaikan kepada:
1. Pejabat Fungsional yang bersangkutan
2. Sekretariat Tim Penilai Kinerja instansi yang bersangkutan
3. Kepala Biro USDM UNS
4. Pejabat lain yang dianggap perlu

KEMENTERIAN PENDIDIKAN TINGGI, SAINS, DAN TEKNOLOGI
UNIVERSITAS SEBELAS MARET

PENETAPAN ANGKA KREDIT
JABATAN FUNGSIONAL LEKTOR
NOMOR 955/UN27.04/KP.15/2025

Instansi :
Kementerian Pendidikan Tinggi, Sains, dan Teknologi

Masa Penilaian :
sampai dengan Desember 2024

I	KETERANGAN PERORANGAN		
	1	Nama	: Tastaftiyan Risfandy
	2	NIP	: 198704142019031010
	3	Nomor Seri Karpeg	: B 00063520
	4	Tempat/Tanggal Lahir	: Boyolali / 14 April 1987
	5	Jenis Kelamin	: Laki Laki
	6	Pangkat/Golongan Ruang/TMT	: Penata Tingkat I / III/d / 01 Oktober 2024
	7	Jabatan/TMT	: Lektor / 01 April 2022
	8	Unit Kerja	: S-1 Bisnis Digital / Fakultas Ekonomi dan Bisnis - Universitas Sebelas Maret

HASIL PENILAIAN KINERJA

II	PENETAPAN ANGKA KREDIT		LAMA	BARU	JUMLAH	KETERANGAN
(1)	(2)		(3)	(4)	(5)	(6)
	1	AK Dasar yang diberikan				
	2	AK JF lama				
	3	AK Penyesuaian/Penyetaraan				
	4	AK Konversi	100	285.49	385.49	
	5	AK yang diperoleh dari peningkatan pendidikan				
JUMLAH ANGKA KREDIT KUMULATIF			**100**	**285.49**	**385.49**	

Keterangan	Pangkat	Jenjang Jabatan
Angka Kredit Minimal yang harus dipenuhi untuk kenaikan pangkat / jenjang	100	200
Kelebihan/~~Kekurangan~~ Angka Kredit yang harus dicapai untuk kenaikan pangkat	185.49	
Kelebihan/~~Kekurangan~~ Angka Kredit yang harus dicapai untuk kenaikan jenjang		185.49

DAPAT/~~TIDAK DAPAT~~ DIPERTIMBANGKAN UNTUK KENAIKAN PANGKAT DAN JENJANG JABATAN SETINGKAT LEBIH TINGGI MENJADI PANGKAT/GOLONGAN RUANG PEMBINA IV/A DAN JENJANG JABATAN AHLI MADYA (LEKTOR KEPALA)

ASLI Penetapan Angka Kredit untuk
Jabatan Fungsional yang bersangkutan

Ditetapkan di Surakarta
Pada tanggal 02 Januari 2025
Pejabat Penilai Kinerja
Dekan Fakultas Ekonomi dan Bisnis,

Prof. Bhimo Rizky Samudro, S.E., M.Si,. Ph.D.
NIP.198003142006041003

Tembusan disampaikan kepada:
1. Pimpinan Unit Kerja
2. Pejabat Penilai Kinerja
3. Sekretaris Tim Penilai yang bersangkutan
4. Kepala Biro USDM UNS

DOKUMEN EVALUASI KINERJA PEGAWAI

UNIVERSITAS SEBELAS MARET

PERIODE PENILAIAN :
02 Januari 2024 s.d 31 Desember 2024

1	**PEGAWAI YANG DINILAI**		
	NAMA	:	Tastaftiyan Risfandy, S.E., M.Sc., Ph.D.
	NIP	:	198704142019031010
	PANGKAT/GOL RUANG	:	Penata Tingkat I/ III/d
	JABATAN	:	Wakil Dekan Bidang Kemahasiswaan dan Alumni Fakultas Ekonomi dan Bisnis (FEB)
	UNIT KERJA	:	Fakultas Ekonomi dan Bisnis - Universitas Sebelas Maret
2	**PEJABAT PENILAI KINERJA**		
	NAMA	:	Prof. Bhimo Rizky Samudro, S.E., M.Si,. Ph.D.
	NIP	:	198003142006041003
	PANGKAT/GOL RUANG	:	Pembina/ IV/a
	JABATAN	:	Dekan Fakultas Ekonomi dan Bisnis
	UNIT KERJA	:	Fakultas Ekonomi dan Bisnis - Universitas Sebelas Maret
3	**ATASAN PEJABAT PENILAI KINERJA**		
	NAMA	:	Prof. Dr. Fitria Rahmawati, S.Si, M.Si.
	NIP	:	197510102000032001
	PANGKAT/GOL RUANG	:	Pembina/ IV/a
	JABATAN	:	Wakil Rektor Bidang Akademik dan Penelitian
	UNIT KERJA	:	Universitas Sebelas Maret
4	**EVALUASI KINERJA**		
	CAPAIAN KINERJA ORGANISASI	:	BAIK
	PREDIKAT KINERJA PEGAWAI	:	SANGAT BAIK
5	**CATATAN/REKOMENDASI**		

Surakarta, 03 Januari 2025
7. Pegawai Yang Dinilai

Tastaftiyan Risfandy, S.E., M.Sc., Ph.D.
198704142019031010

Surakarta, 02 Januari 2025
6. Pejabat Penilai Kinerja

KEMENTERIAN PENDIDIKAN TINGGI, SAINS DAN TEKNOLOGI
UNIVERSITAS SEBELAS MARET
DEKAN
FAKULTAS EKONOMI DAN BISNIS

Prof. Bhimo Rizky Samudro, S.E., M.Si,. Ph.D.
198003142006041003

SASARAN KINERJA PEGAWAI
JABATAN PIMPINAN TINGGI
PENDEKATAN HASIL KERJA KUANTITATIF

UNIVERSITAS SEBELAS MARET

PERIODE PENILAIAN :
02 Januari 2024 s.d 31 Desember 2024

PEGAWAI YANG DINILAI		PEJABAT PENILAI KINERJA	
NAMA	Tastaftiyan Risfandy, S.E., M.Sc., Ph.D.	**NAMA**	Prof. Bhimo Rizky Samudro, S.E., M.Si,. Ph.D.
NIP	198704142019031010	**NIP**	198003142006041003
PANGKAT/GOL RUANG	Penata Tingkat I/ III/d	**PANGKAT/GOL RUANG**	Pembina/ IV/a
JABATAN	Wakil Dekan Bidang Kemahasiswaan dan Alumni Fakultas Ekonomi dan Bisnis (FEB)	**JABATAN**	Dekan Fakultas Ekonomi dan Bisnis
INSTANSI	Fakultas Ekonomi dan Bisnis - Universitas Sebelas Maret	**INSTANSI**	Fakultas Ekonomi dan Bisnis - Universitas Sebelas Maret

NO	RENCANA HASIL KERJA	INDIKATOR KERJA INDIVIDU	TARGET	PERSPEKTIF
(1)	(2)	(3)	(4)	(5)
A. KINERJA UTAMA				
1.	Meningkatnya kualitas lulusan pendidikan tinggi	Persentase lulusan S1 dan D4/D3/D2/D1 yang berhasil memiliki pekerjaan; melanjutkan studi; atau wiraswasta	82,5%	Penerima Layanan
		Persentase mahasiswa S1 dan D4/D3/D2/D1 yang menjalankan kegiatan pembelajaran di luar program studi atau meraih prestasi	40,5%	Proses Bisnis
2.	Meningkatnya kualitas dosen pendidikan tinggi	Persentase dosen yang berkegiatan tridarma di perguruan tinggi lain, bekerja sebagai praktisi di dunia industri, atau membimbing mahasiswa berkegiatan di luar program studi	40%	Penguatan Internal
		Persentase dosen yang memiliki sertifikat kompetensi/profesi yang diakui oleh dunia usaha dan dunia industri atau persentase pengajar yang berasal dari kalangan praktisi profesional, dunia usaha, atau dunia industri	55,15%	Penguatan Internal
		Jumlah keluaran yang berhasil mendapat rekognisi internasional atau diterapkan oleh masyarakat/ industri/ pemerintah per jumlah dosen	4,03 (rasio)	Penerima Layanan
3.	Meningkatnya kualitas kurikulum dan pembelajaran	Jumlah kerja sama per program studi S1 dan D4/D3/D2/D1	5,5 (rasio)	Penerima Layanan
		Persentase mata kuliah S1 dan D4/D3/D2/D1 yang menggunakan metode pembelajaran pemecahan kasus (case method) atau pembelajaran kelompok berbasis projek (team-based project) sebagai bagian bobot evaluasi	63,19%	Proses Bisnis
		Persentase program studi S1 dan D4/D3 yang memiliki akreditasi atau sertifikasi internasional yang diakui pemerintah.	32%	Penguatan Internal

PERILAKU KERJA

1.	Berorientasi pelayanan	
	• Memahami dan memenuhi kebutuhan masyarakat • Ramah, cekatan, solutif, dan dapat diandalkan • Melakukan perbaikan tiada henti	Ekspektasi Pimpinan: • Mengarahkan dengan bijaksana
2.	Akuntabel	
	• Melaksanakan tugas dengan jujur, bertanggungjawab, cermat, disiplin dan berintegritas tinggi • Menggunakan kekayaan dan barang milik negara secara bertanggungjawab, efektif, dan efisien • Tidak menyalahgunakan kewenangan jabatan	Ekspektasi Pimpinan: • Menjadi role model/ panutan dalam menjunjung komitmen dan integritas pegawai di lingkungan kerjanya
3.	Kompeten	
	• Meningkatkan kompetensi diri untuk menjawab tantangan yang selalu berubah • Membantu orang lain belajar • Melaksanakan tugas dengan kualitas terbaik	Ekspektasi Pimpinan: • Menyelesaikan setiap pekerjaan sesuai dengan target dan standar kualitas yang ditetapkan
4.	Harmonis	
	• Menghargai setiap orang apapun latar belakangnya • Suka menolong orang lain • Membangun lingkungan kerja yang kondusif	Ekspektasi Pimpinan: • Membangun komunikasi yang lebih terbuka dan menjaga hubungan baik dengan bawahan / pihak terkait.
5.	Loyal	
	• Memegang teguh ideologi Pancasila, Undang-Undang Dasar Negara Republik Indonesia Tahun 1945, setia kepada Negara Kesatuan Republik Indonesia serta pemerintahan yang sah • Menjaga nama baik sesama ASN, Pimpinan, Instansi, dan Negara • Menjaga rahasia jabatan dan negara	Ekspektasi Pimpinan: • Tidak menyalahgunakan jabatan dan wewenang
6.	Adaptif	
	• Cepat menyesuaikan diri menghadapi perubahan • Terus berinovasi dan mengembangkan kreativitas • Bertindak proaktif	Ekspektasi Pimpinan: • Memberikan solusi dalam menyelesaikan permasalahan dengan cepat dan tepat.
7.	Kolaboratif	
	• Memberi kesempatan kepada berbagai pihak untuk berkontribusi • Terbuka dalam bekerja sama untuk menghasilkan nilai tambah • Menggerakkan pemanfaatan berbagai sumberdaya untuk tujuan bersama	Ekspektasi Pimpinan: • Memberikan kesempatan kepada setiap pegawai untuk menyampaikan ide atau gagasan yang produktif

Pegawai Yang Dinilai

Tastaftiyan Risfandy, S.E., M.Sc., Ph.D.
NIP. 198704142019031010

Surakarta, 02 Januari 2024
Pejabat Penilai Kinerja

KEMENTERIAN PENDIDIKAN TINGGI, SAINS, DAN TEKNOLOGI UNIVERSITAS SEBELAS MARET
DEKAN FAKULTAS EKONOMI DAN BISNIS

Prof. Bhimo Rizky Samudro, S.E., M.Si,. Ph.D.
NIP. 198003142006041003

LAMPIRAN SASARAN KINERJA PEGAWAI

UNIVERSITAS SEBELAS MARET

PERIODE PENILAIAN :
02 Januari 2024 s.d 31 Desember 2024

DUKUNGAN SUMBER DAYA	
1	Dukungan pegawai yang memiliki keahlian di bidang yang relevan
2	Dukungan sarana prasarana untuk tercapainya target kinerja
3	Dukungan anggaran untuk tercapainya target kinerja
SKEMA PERTANGGUNGJAWABAN	
1	Progres dan evaluasi pengembangan pegawai dilaporkan secara berkala.
2	Progres dan evaluasi penyediaan sarana prasarana dilaporkan secara berkala.
3	Progres dan evaluasi penyediaan anggaran dilaporkan secara berkala.
KONSEKUENSI	
1	Apabila memenuhi ekspektasi Pimpinan direkomendasikan sebagai penerima penghargaan pencapaian IKU (Indeks Kinerja Utama).
2	Apabila tidak memenuhi ekspektasi Pimpinan maka direkomendasikan untuk dilakukan revisi anggaran.
3	Sudah di lakukan revisi anggaran masih tidak memenuhi ekspektasi Pimpinan maka direkomendasikan untuk diberikan pinalti anggaran.
4	Apabila memenuhi ekspektasi Pimpinan direkomendasikan sebagai penerima penghargaan pimpinan teladan.

Pegawai Yang Dinilai

Tastaftiyan Risfandy, S.E., M.Sc., Ph.D.
NIP. 198704142019031010

Surakarta, 02 Januari 2024
Pejabat Penilai Kinerja

KEMENTERIAN PENDIDIKAN TINGGI, SAINS, DAN TEKNOLOGI
UNIVERSITAS SEBELAS MARET
DEKAN
FAKULTAS EKONOMI DAN BISNIS

Prof. Bhimo Rizky Samudro, S.E., M.Si,. Ph.D.
NIP. 198003142006041003

EVALUASI KINERJA PEGAWAI
JABATAN PIMPINAN TINGGI
PENDEKATAN HASIL KERJA KUANTITATIF

UNIVERSITAS SEBELAS MARET

PERIODE PENILAIAN :
02 Januari 2024s.d 31 Desember 2024

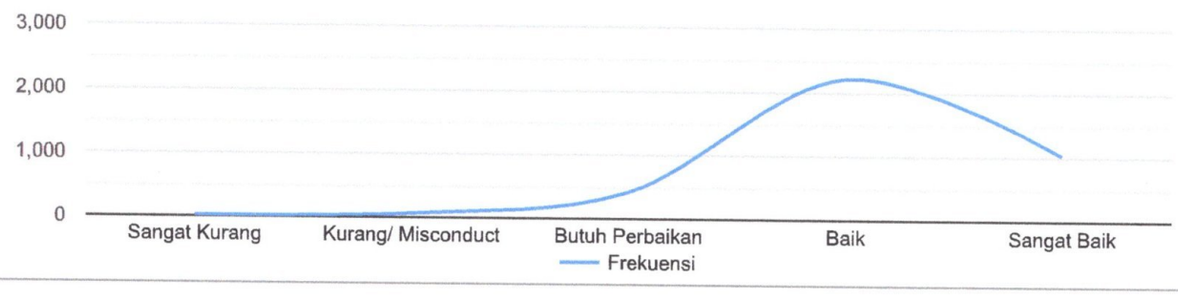
PEGAWAI YANG DINILAI		PEJABAT PENILAI KINERJA	
NAMA	Tastaftiyan Risfandy, S.E., M.Sc., Ph.D.	**NAMA**	Prof. Bhimo Rizky Samudro, S.E., M.Si,. Ph.D.
NIP	198704142019031010	**NIP**	198003142006041003
PANGKAT/GOL RUANG	Penata Tingkat I/ III/d	**PANGKAT/GOL RUANG**	Pembina/ IV/a
JABATAN	Wakil Dekan Bidang Kemahasiswaan dan Alumni Fakultas Ekonomi dan Bisnis (FEB)	**JABATAN**	Dekan Fakultas Ekonomi dan Bisnis
INSTANSI	Fakultas Ekonomi dan Bisnis - Universitas Sebelas Maret	**INSTANSI**	Fakultas Ekonomi dan Bisnis - Universitas Sebelas Maret

CAPAIAN KINERJA ORGANISASI*

BAIK

POLA DISTRIBUSI:

KURVA DISTRIBUSI
PREDIKAT KINERJA PEGAWAI DENGAN
CAPAIAN KINERJA ORGANISASI BAIK



HASIL KERJA

NO	RENCANA HASIL KERJA	INDIKATOR KINERJA INDIVIDU	TARGET	PERSPEKTIF	REALISASI BERDASARKAN BUKTI DUKUNG	UMPAN BALIK BERKELANJUTAN BERDASARKAN BUKTI DUKUNG
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A. KINERJA UTAMA						
1.	Meningkatnya kualitas lulusan pendidikan tinggi	Persentase lulusan S1 dan D4/D3/D2/D1 yang berhasil memiliki pekerjaan; melanjutkan studi; atau wiraswasta	82,5%	Penerima Layanan	88,16%	Hasil kerja melampaui ekspektasi. Pertahankan!
		Persentase mahasiswa S1 dan D4/D3/D2/D1 yang menjalankan kegiatan pembelajaran di luar program studi atau meraih prestasi	40,5%	Proses Bisnis	58,18%	Hasil kerja melampaui ekspektasi. Pertahankan!
2.	Meningkatnya kualitas dosen pendidikan tinggi	Persentase dosen yang berkegiatan tridarma di perguruan tinggi lain, bekerja sebagai praktisi di dunia industri, atau membimbing mahasiswa berkegiatan di luar program studi	40%	Penguatan Internal	43,63%	Hasil kerja melampaui ekspektasi. Pertahankan!
		Persentase dosen yang memiliki sertifikat kompetensi/profesi yang diakui oleh dunia usaha dan dunia industri atau persentase pengajar yang berasal dari kalangan praktisi profesional, dunia usaha, atau dunia industri	55,15%	Penguatan Internal	150,09%	Hasil kerja melampaui ekspektasi. Pertahankan!
		Jumlah keluaran yang berhasil mendapat rekognisi internasional atau diterapkan oleh masyarakat/ industri/ pemerintah per jumlah dosen	4,03 (rasio)	Penerima Layanan	4,12 (rasio)	Hasil kerja melampaui ekspektasi. Pertahankan!
3.	Meningkatnya kualitas kurikulum dan pembelajaran	Jumlah kerja sama per program studi S1 dan D4/D3/D2/D1	5,5 (rasio)	Penerima Layanan	12,5 (rasio)	Hasil kerja melampaui ekspektasi. Pertahankan!
		Persentase mata kuliah S1 dan D4/D3/D2/D1 yang menggunakan metode pembelajaran pemecahan kasus (case method) atau pembelajaran kelompok berbasis projek (team-based project) sebagai bagian bobot evaluasi	63,19%	Proses Bisnis	63,19%	Hasil kerja sudah sesuai yang diharapkan. Pertahankan!
		Persentase program studi S1 dan D4/D3 yang memiliki akreditasi atau sertifikasi internasional yang diakui pemerintah.	32%	Penguatan Internal	75%	Hasil kerja melampaui ekspektasi. Pertahankan!

RATING HASIL KERJA*

DI ATAS EKSPEKTASI

PERILAKU KERJA		UMPAN BALIK BERKELANJUTAN BERDASARKAN BUKTI DUKUNG
1. Berorientasi pelayanan		
• Memahami dan memenuhi kebutuhan masyarakat • Ramah, cekatan, solutif, dan dapat diandalkan • Melakukan perbaikan tiada henti	Ekspektasi Khusus Pimpinan: • Mengarahkan dengan bijaksana	• Selalu menekankan pada improvement kualitas layanan dan mendorong pegawainya untuk patuh pada ketentuan yang berlaku.
2. Akuntabel		
• Melaksanakan tugas dengan jujur, bertanggungjawab, cermat, disiplin dan berintegritas tinggi • Menggunakan kekayaan dan barang milik negara secara bertanggungjawab, efektif, dan efisien • Tidak menyalahgunakan kewenangan jabatan	Ekspektasi Khusus Pimpinan: • Menjadi role model/ panutan dalam menjunjung komitmen dan integritas pegawai di lingkungan kerjanya	• Menggunakan fasilitas pejabat hanya saat melaksanakan tugas jabatan saja
3. Kompeten		
• Meningkatkan kompetensi diri untuk menjawab tantangan yang selalu berubah • Membantu orang lain belajar • Melaksanakan tugas dengan kualitas terbaik	Ekspektasi Khusus Pimpinan: • Menyelesaikan setiap pekerjaan sesuai dengan target dan standar kualitas yang ditetapkan	• Berupaya menyelesaikan pekerjaan melampaui target yang telah ditetapkan
4. Harmonis		
• Menghargai setiap orang apapun latar belakangnya • Suka menolong orang lain • Membangun lingkungan kerja yang kondusif	Ekspektasi Khusus Pimpinan: • Membangun komunikasi yang lebih terbuka dan menjaga hubungan baik dengan bawahan / pihak terkait.	• Sering mengadakan agenda bersama untuk merekatkan hubungan antar pegawai.
5. Loyal		
• Memegang teguh ideologi Pancasila, Undang-Undang Dasar Negara Republik Indonesia Tahun 1945, setia kepada Negara Kesatuan Republik Indonesia serta pemerintahan yang sah • Menjaga nama baik sesama ASN, Pimpinan, Instansi, dan Negara • Menjaga rahasia jabatan dan negara	Ekspektasi Khusus Pimpinan: • Tidak menyalahgunakan jabatan dan wewenang	• Selalu memegang teguh sumpah jabatan
6. Adaptif		
• Cepat menyesuaikan diri menghadapi perubahan • Terus berinovasi dan mengembangkan kreativitas • Bertindak proaktif	Ekspektasi Khusus Pimpinan: • Memberikan solusi dalam menyelesaikan permasalahan dengan cepat dan tepat.	• Mempelajari hal baru dan dapat mengarahkan bawahan untuk menyelesaikan masalah dengan cepat dan tepat
7. Kolaboratif		
• Memberi kesempatan kepada berbagai pihak untuk berkontribusi • Terbuka dalam bekerja sama untuk menghasilkan nilai tambah • Menggerakkan pemanfaatan berbagai sumberdaya untuk tujuan bersama	Ekspektasi Khusus Pimpinan: • Memberikan kesempatan kepada setiap pegawai untuk menyampaikan ide atau gagasan yang produktif	• Rutin mengadakan koordinasi dengan pegawai dan memberikan kesempatan kepada pegawai untuk menyampaikan pendapatnya.

RATING PERILAKU KERJA*
DI ATAS EKSPEKTASI

PREDIKAT KINERJA PEGAWAI*
SANGAT BAIK

Surakarta, 02 Januari 2025

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No	Karya Ilmiah	Judul	Identitas Karya Ilmiah
1	Karya Ilmiah - Jurnal Ilmiah	Excess Remuneration, Governance, and Risk-Taking in Islamic Banks	C.1.c.1 | International Journal of Finance & Economics Jurnal Internasional Bereputasi Q2, SJR : 0.791 ISBN/ISSN : 1099-1158 url : https://onlinelibrary.wiley.com/doi/10.1002/ijfe.70022 doi : https://doi.org/10.1002/ijfe.70022 scimago : https://www.scimagojr.com/journalsearch.php?q=17332&tip=sid Link SINTA ID : https://sinta.kemdiktisaintek.go.id/authors/profile/6008695 Link SCOPUS ID : https://www.scopus.com/authid/detail.uri?authorId=57193524279

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International Journal of Finance & Economics

WILEY

RESEARCH ARTICLE

Excess Remuneration, Governance, and Risk-Taking in Islamic Banks

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Received: 18 June 2023 | **Revised:** 15 February 2025 | **Accepted:** 10 July 2025

Funding: This work was supported by American Indonesian Exchange Foundation.

Keywords: excess compensation | excess remuneration | governance | Islamic banks | risk-taking

ABSTRACT

We comprehensively investigate the impact of remuneration on the governance of Islamic banks pertaining to the board of directors (BOD), *Shariah* supervisory board (SSB), executives, and the chief executive officer (CEO). The research in this area is still muted, especially using samples of Islamic banks and involving all board member types. Using the hand-collected data of dollar remuneration on those board members, we estimate their 'normal' remuneration, and we find that all board types, including the CEO, are over-remunerated from USD 20,790–305,920. However, in further investigation, we find that the excess remuneration in the directors and SSB favours the Islamic banks, particularly to lessen the risk-taking incentive. Our result highlights the importance of Islamic banks' two-layer governance system, which has a role in preventing excessive risk-taking behaviour. Supporting the 'efficiency wage hypothesis', the good remuneration design for the directors and *Shariah* scholars will attenuate the agency problems in the context of Islamic banks. Regarding executives and the CEO, we do not find a significant impact of the excess remuneration. This is likely because the Islamic banking industry faces a number of restrictions due to its presence as a heavily regulated financial institution and the voluminous *Shariah* requirements that must be fulfilled in its operations.

JEL Classification: G21, G28, J33, Z12

We get high salaries because we deserve them. If you pay peanuts, you get monkeys.

A CEO of a bank in Pakistan[1]

Does Disney CEO Bob Iger have a good explanation for why he is being compensated more than $400 million while workers at Disneyland are homeless and relying on food stamps to feed their families?

Bernie Sanders[2]

1 | Introduction

The remuneration or compensation of the company executives and directors will always be a hot topic to discuss. The statistics and reports show that their total pay, especially for executives, is unrealistic and could be hundreds of times that of average workers. For instance, the Economic Policy Institute (2019) has revealed that the annual compensation of the CEO has grown 940% since 1978, and it is 278 times that of their employees. Business Insider (2016) shows that the executives of the BBC

even earn more than double that of the UK Prime Minister. For senior executives, the recession is even only a history because they consistently receive a significant increase in their salary despite the downward employment rate (The Guardian 2019). This condition creates much criticism from employees and even policymakers.

One may argue that it is reasonable if the CEO receives multiple times the employee's salary because they sit at the helm of a profit organisation with billion-dollar assets, and they could be sacked at any time when the firm's performance is poor (Alam 2014). Chamorro-Premuzic (2016) asserts that C-suite leaders can be expected to influence the majority and organisation, and this differs from midlevel managers who only influence their team. In addition, Chamorro-Premuzic (2016) highlights that the CEO's pay differs from other employees because the personality and charisma of the CEO can shape the whole culture of the organisation. Moreover, the CEO's judgement can affect the key managerial and strategic decisions in the firm, and their reputation or social capital can also affect the firm's stock price and valuation (Chamorro-Premuzic 2016).

This paper extends the debate on executives' pay, especially in the banking environment. Compared to other industries, banks and other financial services are heavily regulated. Financial institutions are more prone to troubles by nature. Their interconnectedness with other banks and firms will significantly impact the whole economy, especially if they face financial distress (Casu et al. 2015). Therefore, the wrong design of executive remuneration (e.g., excessive remuneration) could be the major driver of excessive risk-taking, becoming an additional cause of the financial crisis (Bebchuk and Fried 2003). However, one may also argue that because financial institutions have limited growth options, extensively higher leverage, and are insured by the depository institutions (Bai and Elyasiani 2013), their compensation scheme for executives and CEOs will have a lower impact on bank risk. The latter argument is supported by some empirical studies, such as Houston and James (1995). Ayadi in Barth et al. (2012) also finds that the structure of compensation in the banking industry does not promote risk-taking.

This paper focuses on Islamic banking as a particular type of bank that uses *Shariah* or Islamic law in its operations, and it has had substantial growth in the banking market recently. According to IFSB (2020), Islamic banks currently hold more than 70% of the Islamic financial services industry. Islamic banks have reported yearly growth of 12.75% and have an asset worth USD 1765.8 trillion as of 2019 (IFSB 2020). Because of its significant development, the payments of directors and executives have also received attention recently. For instance, the CEO of Meezan Bank is the second-highest-paid banker in Pakistan, and he received Rs. 215 million or approximately USD 2,8 million in 2019 (Pakistani Journal 2020)[3]. For comparison, this amount is considerably high because it is less than half of BNP Paribas CEO, who is categorised as one of the top 20 highest-paid banking CEOs globally (Financial Times 2017).

Our primary question in this paper is whether board remuneration could promote risk-taking in Islamic banks. This is an important issue to investigate because Islamic banks generally possess a different risk profile than conventional ones. Although some studies suggest that they are less vulnerable during the financial crisis (Abedifar et al. 2013; Beck et al. 2013), Islamic banks have several limitations, such as the difficulties of seeking funds from the money market when they face liquidity problems (Hassan et al. 2019). Moreover, because Islamic banks operate based on profit and loss sharing principles and most Islamic banks operate in the dual banking markets, they are also subject to some particular risks, such as *displaced commercial risk* that can increase withdrawal risk. The profit and loss sharing mechanism in Islamic banks implies that the return/profit that they will share with the depositors (on the liability side) will depend on the return/profit they receive from the entrepreneur/borrower (on the assets side). In other words, the higher the return they obtain from the borrower, the higher the money they give to the depositors. A problem then occurs when Islamic banks do not obtain an adequate return from the borrower, but on the other hand, they have to maintain return payment to the depositors. In the modern Islamic finance concept, this is called *displaced commercial risk*. If this risk is not well managed, withdrawal risk will also occur. There is a risk of losing deposits to competition from other Islamic or conventional banks when actual rates of return are lower than expectations or the prevailing rates of return offered by competitors[4].

The contribution of this paper is threefold. First, despite the abundance of empirical papers investigating Islamic banks' stability, to the best of our knowledge, interestingly, there are few studies that specifically analyse the effect of remuneration on the stability and risk-taking of Islamic banks. Since Islamic banks' risk profile substantially differs from those of conventional peers, the whole design of the remuneration and its impact on bank risk should also not be the same. Recent studies have focused on Islamic banks' stability, soundness, and risk-taking (Abedifar et al. 2013; Beck et al. 2013). Some of them focus on the determinants of stability, such as size (Ibrahim and Rizvi 2017), competition (Risfandy et al. 2022), lending behaviour (Ibrahim and Rizvi 2018), political risk (Al-Shboul et al. 2020), and some other issues[5].

Second, this paper contributes to the literature stream by not only focusing on the CEO but also on other board types/highest layer/leaders in Islamic banks, including executives and directors. Recent studies in the conventional banks' sample look into remuneration issues only for bank executives and the CEO[6]. Bai and Elyasiani (2013) employ CEO compensation sensitivity to risk, or *vega*, and find that higher *vega* is associated with lower bank stability. In a similar vein, Gande and Kalpathy (2017) observe that the amount of emergency loans and total loan days outstanding increases in the pre-crisis *vega*, suggesting that equity incentives in CEO compensation contracts are positively related to risk-taking in financial firms. Jiang et al. (2019) provide evidence of the relationship between deferred cash compensation and risk-taking by analysing a sample of 156 bank executives from 14 listed Chinese banks. Shah et al. (2017) find a negative relationship between CEO compensation and bank risk-taking both in the pre- and post-crisis periods. Tian and Yang (2014) find that although CEO pay has dropped during the financial crisis, bank CEOs are still paid much better than their firms and shareholders. Using the simulation approach, Francis et al. (2015) find that regulatory changes can result in a change in the composition of managerial compensation, which

creates an environment of incentives for enhanced risk-taking. Uhde (2016) provides empirical evidence for a risk-increasing impact of excess compensation of their executives from an analysis of 63 banks in 16 European countries.

Third, our paper's focus is not solely on the remuneration of CEO and executives who often receive criticism both from the media and academic literature; we also focus on the remuneration of SSB, which became the second layer of the governance system in Islamic banks. Empirical studies about their role in the Islamic banks' governance are indeed well documented (Meslier et al. 2020; Mollah et al. 2016; Mollah and Zaman 2015; Safiullah and Shamsuddin 2018), but their position as part of the board that received remuneration receives lack empirical investigation. It might not be surprising that the executives and CEO received hundreds of thousands of dollars annually because of their position. In the case of SSB, because the number of Islamic scholars is minimal (the supply), the SSB position is actually in great demand and should also receive vital attention[7]. Plenty of Islamic scholars serve on more than one SSB, and high-profile SSB members could sit on 50–70 banks (Abdul-Rahman 2010). A scholar in Islamic banks could charge the bank up to USD 88,500 per bank per year, and the amount could reach USD 500,000 for consultations of large capital market transactions (Khan and Bhatti 2008; Oseni et al. 2016).

The remainder of this paper is as follows. Section 2 provides the literature and hypothesis. Section 3 highlights the methodology and econometric approach to answer our research question. Section 4 provides the empirical result, followed by robustness checks in Section 5. Section 6 concludes.

2 | Literature Review and Hypothesis Development

2.1 | Remuneration and Wage in Islam

Islam does not explicitly regulate how much wage (the upper and lower limit) should be earned by a Muslim because wealth is not a measure of Muslim success. In *Shariah*, the main determination of wage and remuneration usually uses the principles of justice, equality, and fairness. Islamic scholars have proposed various factors that influence wage determination, such as 'justice', 'equality', 'market based', 'skill', 'performance', 'basic needs' and others but therefore fail to conclude which factors are most important (Yasmeen 2023). Therefore, it is argued that although the determinants of 'normal' wage are inconclusive, the main point to be highlighted is not how much wage he/she should earn, but for what the wage gives benefit In *the Shariah* concept, the wage/remuneration should be applied in such a way that it is enough and can satisfy and benefit his/her core members of the family (Ahmad 2011). This could be the minimum definition of a wage/salary/money/remuneration that people should have. At least, the wage should be able to feed his family, because if it is not, the Muslim will be considered as 'poor' (*fakir*/*miskin*).

While there is no single consensus about wage or remuneration in Islam, in another perspective, Islam promote entrepreneurship. Gümüsay (2015) highlights that entrepreneurship in Islam is based on three interlinked pillars: (1) pursuit of opportunities, (2) socio-economic and ethical, and (3) religio-spiritual and links people to God. The first and second pillars is somewhat already embedded in the common definition of 'good' entrepreneurship: looking for profit but still considering ethical values. The third pillar is more on the *halal* concept, viewing entrepreneurship as a human being activity as part of worshipping God[8]. Moreover, Islam also encourages profit maximisation. Ali et al. (2013) point out that profit maximisation is legitimate in Islam because it is an integral part of business considerations, but it should not be the only goal of conducting business because business activity should be conducted ethically. Ali et al. (2013) also point out that in Islam, earnings and profits are approved as long as they do not lead to exploitation and harm to the community because the outcome of Islamic economics is the prosperity and welfare of the society.

2.2 | Islamic Banks' Principle

People generally believe that Islamic banks operate based on *Shariah* (Islamic law), which comes from the Quran and the hadith. This is true, but more specifically, the concept and application of Islamic banks stem from *fiqh al-muamalat* (Islamic jurisprudence for transactions). This is part of the *Shariah* that regulates how each Muslim interacts with others in non-worship activities, particularly social and economic activities. The other part, called *fiqh al-ibadat* (Islamic jurisprudence for worship) which regulates how Muslims should pray and how a person should maintain a relationship with God.

It is interesting to see that the existence of Islamic banks is a product of the *Shariah* and *fiqh al-muamalat*, but Islamic banks—although they have promising growth in the last decades—cannot replace the existing conventional banks. Muslims see Islamic banks and their products as an alternative and not to replace conventional banks' products that they have used for a long time. People see that the prohibition of *riba* that stemmed from the *Shariah* is not necessarily similar to the prohibition of the conventional banks because conventional banks' interest is not necessarily similar to *riba* (Harahap and Risfandy 2022). The debate about this issue never ends, and therefore, it leaves it to each person which arguments he/she believes.

In essence, Islamic banks not only have the spirit to disallow conventional banks' interest but also bring 'trade' and 'equity financing' as replacements[9]. The trade mechanism in Islamic banks is successfully applied and has become a prominent contract between the client and the banks. On average, Islamic banks allocate more than half a portion of their lending by using trade mechanisms (Meslier et al. 2020). This instrument is so far accepted by the market for both Islamic banks and their clients, especially in an environment characterised by high market imperfection and high asymmetric information, because it can be used to mimic conventional banks' interests. Since Islamic banks operate side-by-side with conventional ones in the same market, the mimicking mechanism is often used by Islamic banks to make them competitive in the market (Risfandy et al. 2022).

However, as the trade contract gains popularity, equity-based contract financing, which contains the main spirit of Islamic banks because it promotes profit and loss-sharing mechanisms, is often neglected. The percentage of equity-based lending is tiny and even missing in many banks across countries (Meslier et al. 2020; Silvia et al. 2024). The banks and the clients often avoid this type of financing because it is complicated (Abedifar et al. 2013), very risky and could harm Islamic bank's financial stability (Hamza and Saadaoui 2013), and there is a lack of government support and regulatory harmonisation (Kammer et al. 2015).

2.3 | The Governance Structure of Islamic Banks

Islamic banking has its unique characteristics in terms of business activities and governance. Typically, it features two layers of governance system: the 'standard' board and the *Shariah* supervisory board/SSB (Ibrahim and Law 2020). The standard board leads banking institutions in matters related to management effectiveness, while the *Shariah* board ensures that banking operations and products comply with Islamic principles (Mollah et al. 2016).

Within the standard board, the leadership consists of the board of directors (BOD), the executive, and the chief executive officer (CEO). As in other institutions, the main roles of the BOD are to monitor and supervise the management (Fama and Jensen 1983), to manage conflicts of interest among stakeholders (Ajili and Bouri 2018), and to oversee the institution's performance (Dalwai et al. 2015). In fulfilling its duties, the BOD is assisted by the CEO and executive members. Sometimes, the CEO holds CEO duality, serving as both the general manager and the chairman of the board (Bank Negara Malaysia 2015).

The SSB operates under two governance models: the decentralised model and the centralised model. In Islamic banks that follow the decentralised model, each bank has its own independent SSB, with the authority to decide which products to offer (Alam, Miah, et al. 2020; Hamza 2013). In contrast, in the centralised model, the SSB, which is part of the central bank, regulates the compliance of Islamic banking products and activities within a country (Hamza 2013). Most countries adopt a decentralised model, except for some countries, such as Turkey and Sudan, which prefer a centralised model.

The decentralised SSB operates at a level parallel to the BOD but with distinct characteristics. SSB members specialise in Islamic commercial jurisprudence and should have expertise in Islamic financial institutions (AAOIFI 2004). This specialisation helps facilitate their task of ensuring *Shariah* compliance and allows members to share their knowledge with each other easily. Although both the SSB and BOD are involved in strategic planning, the SSB focuses on current and past events, while the BOD concentrates on future strategy (AAOIFI 2004).

Prior empirical studies have been concerned with agency theory in Islamic banks. *Shariah* governance in Islamic banking requires collaboration between the SSB and the BOD, especially regarding *Shariah*-related issues (Khalil 2021). However, the difference in formal training backgrounds in *Shariah* law between the directors and the SSB can create conflicts of interest (Alam, Ramachandran, and Nahomy 2020; Garas S. 2012). On the other hand, integrating the roles of the BOD and SSB is crucial for controlling risk-taking (Ramly and Nordin 2018). The SSB, with its expertise and authority, can cancel any investment or product that does not comply *with Shariah* law (Meslier et al. 2020) and offer advice to the BOD, even if it may reduce potential benefits for the bank (Ullah et al. 2018).

2.4 | Efficiency Wage Versus Moral Hazard Hypothesis

Two theories emanated from the literature concerning the compensation-risk-taking nexus of the boards. The first is the agency theory, which highlights the problem of managerial power and discretion (Jensen and Meckling 1976). Using their power, the managers could build their own empire and engage in any activities that do not align with the ultimate purpose of financial management: to increase shareholder wealth. The 'optimal contracting approach' for their managers can predictably provide them with efficient incentives to maximise shareholder value (Bebchuk and Fried 2003). Some other researchers note this as the 'efficiency wage hypothesis' (Adams and Ferreira 2008; Unda and Ranasinghe 2019). Under this theory, it is hypothesized that the firm's good compensation design will positively impact bank soundness. The boards are more likely to work better if they are paid more (Unda and Ranasinghe 2019) and even for a small difference in financial rewards (Adams and Ferreira 2008).

However, it is also argued that under the 'managerial power approach' or 'moral hazard hypothesis', executive compensation is not only a potential instrument for addressing the agency problem but also part of the agency problem itself (Bebchuk and Fried 2003). By having a high compensation level, the executives could engage in excessive risk-taking to fulfil their targets and satisfy shareholder expectations. In the case of a financial institution, this problem could be more severe because of the recent global financial crisis caused by the increased risk-taking and pay motives of top executives of major banks (Ntim et al. 2013; Shah et al. 2017). It has also been largely discussed in the literature that risk-taking incentives in the bank are more pronounced than in the non-financial firm. Because the financial institution is highly leveraged, the manager and executives can shift risk to the dispersed debtholders (Uhde 2016). This mechanism is even more relevant in the presence of deposit insurance corporations when the managers could take excessive risk by expecting government bail-out for the depositors. In this regard, the risk may additionally be shifted to the regulators and taxpayers. In other words, the agency conflict that stems from excessive executive compensation could harm the stability of the financial market as a whole.

2.5 | Hypothesis Development

Unlike the conventional banks' spirit that primarily focuses on maximising shareholder values and providing financial intermediation for personnel and companies, Islamic banks

have *Shariah* obligations that must be applied in their system and practice. The application of the *Shariah* is not just the prohibition of the *riba* (usury/interest) but also the motivation for the profit-and-loss sharing principle (Meslier et al. 2020), the existence of the *Shariah* board in the Islamic banks (Mollah and Zaman 2015), and also how the remuneration should be applied in Islamic banks. In *the Shariah* concept, the wage/remuneration should be applied in such a way that it is enough and can satisfy the core member of the family (Ahmad 2011). Over-remuneration, conceptually, is not prohibited in *Shariah*, as Islam also does not limit people from being rich. Moreover, Islam motivates people to seek money in order to be able to pay *zakat*, besides fulfilling the family needs.

In the 'efficiency wage hypothesis', good remuneration for the firm leader could benefit firm performance and firm stability (Adams and Ferreira 2008; Unda and Ranasinghe 2019). When we link this with the *Shariah* concept that permits people to have more money, the more money they will have, the more efficiently they will work and the faster they can fulfil their responsibilities (Elnahass et al. 2020). Moreover, the concept of a two-layer governance system in Islamic banks theoretically will restrain Islamic bank leaders from having excessive risk-taking because they are double-monitored by the BOD and SSB: performance- and *Shariah*-related issues (Mollah and Zaman 2015). Therefore, even when Islamic banks' directors and executives are paid more, they are less likely to take excessive risk because the SSB highly monitors them. In this regard, the 'moral hazard hypothesis' is also less likely to happen. Moreover, the role of SSB has also improved recently, not only paying attention to the *Shariah* issues but also to the bank's performance (Elnahass et al. 2020; Farag et al. 2017; Mollah and Zaman 2015). Without a doubt, the markets (and also the banks' stakeholders, including depositors) will have a positive view of Islamic banks that have reputable SSB members in their structure. Islamic banks will be at higher risk if they are monitored by 'unqualified' Islamic scholars sitting in the SSB because the SSB (and its members) has the authority to issue a *fatwa* regarding whether the bank products are halal or not (Ginena and Hamid 2015; Quttainah et al. 2013). Based on this matter, in this paper, we hypothesize the following 'efficiency wage hypothesis':

H1. *Islamic banks with higher leaders' remuneration are associated with lower risk-taking.*

3 | Methodology

3.1 | Sample Selection

We collect data on directors', SSBs', executives', and CEOs' remuneration/compensation from the annual report of all Islamic banks operating in the dual banking market worldwide. Our data is limited to the banks that: (1) publicly report the remuneration data in their annual report, and (2) have data that matches other datasets we retrieve from BvD BankFocus and WorldBank. We convert all remuneration data to a dollar value (USD) to better compare across countries. The period of this study is from 2011 to 2019. We restricted our sample to 2019 to isolate the effects of the economic crisis caused by the COVID-19 pandemic.[10] Finally, our final datasets comprise 720 observations of 104 Islamic banks in 17 countries.

3.2 | Dependent Variable: The z-Score

For the dependent variable, we use a z-score as a widely used measure of risk-taking in both Islamic and conventional banks. The z-score is prevalent in the empirical banking literature because the calculation is simple and can be constructed using only accounting information. The z-score has various approaches (see, e.g., Boyd et al. (2006), Yeyati and Micco (2007), Cihák and Hesse (2007)) and in this paper, we follow the most widely used z-score (Beck et al. 2013; Cihák and Hesse 2007; Fiordelisi and Mare 2014; Fu et al. 2014; Laeven and Levine 2009; Risfandy et al. 2022) with the formula written in the following Equation (1).

$$Z_{it} = \frac{\text{ROA}_{it} + \text{EQTA}_{it}}{\sigma\text{ROA}} \tag{1}$$

The ROA is return on assets and the EQTA corresponds to the capital–asset ratio. The z-score technically shows the number of standard deviations that bank return has to fall below its expected value to deplete equity and make the bank insolvent (Fu et al. 2014). It uses the ROA and EQTA for each bank and each period and the standard deviation of all banks in all periods. According to Lepetit and Strobel (2013), this method could provide lower average RMSE (root mean squared errors) and it is better than the rolling method.

3.3 | Independent Variables: The Excess Remuneration

We define remuneration (that we extract the data from the annual report) as the total dollar cash remuneration received by either the directors, SSB, executives, or the CEO, in a given year. If it is not clearly stated in the annual report whether it is cash remuneration, we take the value of total remuneration. We argue that this method is reasonable because cash compensation has the highest portion in Asia (Groysberg et al. 2021). In Asian companies, remuneration is mostly from the base salary that is not market-driven, while long-term incentives such as equity compensation are generally not offered (Groysberg et al. 2021).[11]

In this paper, rather than using remuneration *per se*, we use excess remuneration as the more valid predictor of banks' risk-taking (Dah and Frye 2017; Uhde 2016)[12]. To calculate excess, we use a remuneration model following Uhde (2016): the total bank remuneration is a function of the bank size.

$$\text{Rem}_{it} = \alpha_0 + \beta_1 \text{Size}_{it} + \lambda\ \text{CountryFE}_j + \delta\ \text{YearFE}_t + \varepsilon_{i,t} \tag{2}$$

Rem consists of *DirRem* (directors' remuneration), *SSBRem* (*Shariah* supervisory board remuneration), *ExRem* (executive remuneration), and *CEORem* (CEO remuneration); each of them is in logarithm form. Therefore, from Equation (2), our estimation is four times—each time for each dependent variable. The excess is defined as the regression residuals.

Following Uhde (2016), we add country and year fixed effects and estimate the equation using least square dummy variables (LSDV) because remuneration could vary across country and time. Islamic banks' dual banking market has notable differences country-by-country that should be taken into account. Some studies have reported that the institutional quality between countries matters in shaping Islamic banks' behaviour (Bitar et al. 2017; Bitar and Tarazi 2019; Meslier et al. 2017, 2020).

Residuals from Equation (2) indeed are not in absolute value. A transformation using an exponential of logged residual is needed in order to obtain real 'excess' in USD. We could also calculate the predicted (normal) value of remuneration, taken from the exponential logged fitted value of the remuneration variable. Therefore, the real excess compensation could be defined as the difference between the exponential of logged director actual compensation and the exponential of predicted compensation.

3.4 | Control Variables

It is imperative to control for both bank- and country-specific factors when investigating the impact of excess remuneration because it could lessen the problem of omitted variable bias in the regression and, therefore, increase the estimation's validity. The first variable we use as a control in this paper is the return on assets (ROA) as a proxy for bank profitability following Unda and Ranasinghe (2019). Although more profitable firms are less likely to suffer financial distress (Dolde in Barth et al. 2012), other literature suggests that the nexus between profitability and risk-taking remains inconclusive (Martynova et al. 2020). Second, we introduce *Size* calculated from the logarithm of the banks' total assets. Larger banks tend to be riskier (Dbouk et al. 2020; Ferris et al. 2017) and recent studies in Islamic banks also show the negative impact of bank size on stability (Ibrahim and Rizvi 2018; Risfandy et al. 2022). Third, we control for bank liquidity using the ratio of liquid assets to total assets (*LATA*) following prior empirical research (Dong et al. 2016; Risfandy et al. 2022; Uhde 2016). We also consider bank inefficiency using cost to income ratio (*CIR*) following Beck et al. (2013). Operational inefficiency can increase bank risk, illustrating a moral hazard probability from poor (inefficient) banks that have greater incentives for risk-taking (Abedifar et al. 2013). The next two variables we employ in this paper are inflation (*INFL*) and gross domestic product growth (*GDPGR*) to control for the differences between country economic conditions in our sample (Ibrahim and Rizvi 2018; Risfandy et al. 2022).

3.5 | Econometrics Strategy

To investigate the impact of excess remuneration on bank risk taking, the following equation is constructed.

$$\text{Log}Z_{it} = \alpha_0 + \beta\ \text{Excess}_{it} + \varphi X_{it} + \gamma Z_{jt} + \epsilon_{i,t} \quad (3)$$

Excess is the excess remuneration obtained from the residuals of Equation (2) and it comprises *ExcessDir*, *ExcessSSB*, *ExcessEx*, and *ExcessCEO* in logarithmic form. Log*Z* is the logarithm of the z-score. *X* is a vector of bank-level control variables, whereas *Z* refers to a set of country-level control variables. Equation (3) is estimated using the fixed-effect method, and we eliminate autocorrelation and heteroscedasticity problems using clustered standard errors at the bank levels.

4 | Result

4.1 | Descriptive Statistics

Table 1 shows the descriptive statistics of the variables used in this research, along with their brief definitions/calculations. Especially for control variables, the statistics are consistent with the recent empirical research in Islamic banks (Al-Shboul et al. 2020; Hassan et al. 2019; Risfandy et al. 2022; Sobarsyah et al. 2020; among others). The ROA shows a mean of 0.5%, and the maximum value is only 17%, suggesting that Islamic banks in our sample cannot show their strong ability to generate profit. On the other hand, Islamic banks could be categorised as safe in terms of their liquidity because the statistics show that Islamic banks on average have liquid assets of 24% over their total assets. The mean value of CIR is 75%, meaning that Islamic banks on average have 75% of operating costs compared to their total income. This value reflects that Islamic banks tend to have inefficiency problems in their business activities. Islamic banks often face inefficiency issues because they are considered to be more complex than conventional ones, as they must provide product innovations under *Shariah* compliance (Safiullah and Shamsuddin 2022). For country-level variables, we have a 3% and 4% mean of inflation and GDP growth across countries in our sample, respectively.

Table 2 shows the average remuneration by country as well as the number of banks in each country and the average number of directors, SSB members, and executives in each country. Most of our bank sample comes from Bahrain (18 banks or 17% of the sample), Malaysia (17 banks or 16%), and Indonesia (11 banks or 10%). Some of the countries only have one bank available (Iraq, Maldives, South Africa, Turkey). Bangladesh has the highest average number of directors (15 board members), while Indonesia has the lowest number (4 board members), possibly because Indonesia adopted the two-tier governance system (Risfandy et al. 2021). However, the lowest number of executives is surprisingly not from Indonesia but from the United Kingdom's Islamic banks (2 members). The highest number of executives in our sample is observed from Qatar (13 board members). The average of SSB members ranges between 2 (Iraq) and 8 (Bangladesh), and the total sample average is four members.

Regarding the dollar value of remuneration, the highest-paid individual directors can be spotted in Qatar. They receive approximately USD 221,880 per person, and this value is about 30 times what Bangladesh directors earn. In the case of executives, we observe that Saudi Arabia has the highest remuneration since our data shows that each executive can earn approximately USD 689,260 each year. Although the UK has the fewest executives, their salaries rank second after Saudi Arabia, which earns USD 489,810 per year, followed by Qatar, where executives' salaries amount to USD 430.13 per year. The United Kingdom's *Shariah* board members are the most paid compared to other countries, as they can earn approximately

TABLE 1 | The description and statistics of variables.

Variable	Description	Obs.	Mean	S.D.	Min	Max
LogZ	The log of z-score to proxy bank stability	720	1.382	0.760	0.152	3.164
LogZ_alt	The log of z-score (alternative measure) following Lepetit and Strobel (2013)	720	1.373	0.763	−0.388	3.224
DirRem	Yearly director's remuneration in thousand USD	720	643.812	609.746	66.282	1945.670
SSBRem	Yearly SSB's remuneration in thousand USD	427	108.751	126.104	7.576	864.668
ExRem	Yearly executive's remuneration in thousand USD	493	1763.023	1835.545	131.277	5617.000
CEORem	Yearly CEO's remuneration in thousand USD	229	519.610	473.934	40.626	3091.458
ExcessDir	Yearly excess director's remuneration in thousand USD	720	195.351	488.732	−540.674	1758.861
ExcessSSB	Yearly excess SSB's remuneration in thousand USD	427	20.745	91.465	−386.989	783.089
ExcessEx	Yearly excess executive's remuneration in thousand USD	493	458.386	1205.989	−2250.205	4907.891
ExcessCEO	Yearly excess CEO's remuneration in thousand USD	229	104.335	413.686	−495.737	2461.399
ROA	Return on assets to proxy bank profitability	720	0.005	0.030	−0.159	0.170
Size	Size of banks proxied by the natural logarithm of total assets	720	14.616	1.917	8.745	17.908
LATA	Liquid assets to total assets to proxy liquidity	720	0.247	0.120	0.059	0.692
CIR	Cost to income ratio to proxy (in)efficiency	720	0.757	0.357	0.320	1.569
INFL	Inflation	720	0.034	0.031	−0.021	0.295
GDPGR	Growth of GDP	720	0.042	0.023	−0.047	0.138

USD 557,500 per year. This dollar value is even more than two times what Qatar's *Shariah* board earns, although they ranked as the second highest-paid *Shariah* board members. We also provide the data for CEO yearly remuneration in our Table, and our statistics show that Malaysian CEOs have higher remuneration (approximately USD 644,190) than other CEOs. The lowest value could be observed in Saudi Arabia (USD 111,320), and this is also similar to other board-type remunerations.

Table 3 shows the dollar values of predicted and excess remuneration. The directors, SSB, executives, and CEO on average are over-remunerated by approximately USD 234,300; USD 20,790; USD 305,920; and USD 28,290; respectively. By reflecting on the characteristics and performance of the banks (as we could see in the determinant of the remuneration in Equation (2)), Qatar is the most over-paid country for the directors (with an excess of USD +1,017,910 per year), followed by Iraq (USD +655,010/year) and Oman (USD +541,850/year). Our statistics show that almost all directors are over-compensated, except Bangladesh, which is under-remunerated (USD −15,400/year).

Similar to the highest SSB remunerations, which are from the UK, the excess SSB remunerations also show that the UK ranks number one, with an excess value of USD 86,330 per year. All countries have excess for their SSB remunerations, while the Maldives is the only country with the lowest SSB excess value (USD 100 per year). Regarding executives, Saudi Arabia is also number one in overpaid executives (USD +1,625,740 per year), and this value is about 210 times the excess in South Africa (USD +7,730). Bangladesh is the only country with underpaid executives, and the negative excess value is quite significant (USD −140,250). Our estimation shows that most CEOs are over-remunerated, with the average value from our sample being USD +28,290. Only United Arab Emirates shows the lowest excess of remuneration, though it is not a major issue because the amount is only USD 0.03 per year.

4.2 | Main Result

Before performing the regression, we also check for multicollinearity issues by using a correlation matrix and variance inflation factors following Zhou et al. (2021). The result shows that there is no particular concern of multicollinearity between independent variables because the correlation coefficient and VIF for all variables are less than 0.6 and 2, respectively[13].

Table 4 shows the baseline regression results between excess compensation and bank stability. The results indicate that the *ExcessDir* and *ExcessSSB* have a positive association with bank stability, while *ExcessEx* and *ExcessCEO* do not show any significant impact. The variables *ExcessDir* and *ExcessSSB* are significant at the 1% and 5% levels, respectively, suggesting that our result is strong. This empirical evidence means that the high remuneration scheme in the BOD and *Shariah* supervisory board (SSB) could lessen the risk-taking incentive in Islamic banks. This result emphasises the importance of an inseparable two-layer governance system in Islamic banks. Both

TABLE 2 | Average remuneration by country (2011–2019).

CountryID	*N* Banks	*N* Dir (average)	DirRem (total)	DirRem (/ person)	*N* Ex (average)	ExRem (total)	ExRem (/ person)	*N* SSB (average)	SSBRem (total)	SSBRem (/ person)	CEORem (/person)
Bahrain	18	9.48	474.64	51.04	8.66	1174.18	115.84	3.57	93.88	31.25	157.63
Bangladesh	9	14.74	109.04	7.45	11.22	136.76	17.75	8.12	27.98	3.33	143.46
Egypt	3	9.11	673.53	71.20	11.67	3270.06	220.04	4.39	9.88	1.77	.
Indonesia	11	4.05	333.05	77.44	4.62	1012.39	205.75	2.38	73.19	30.57	.
Iraq	1	8.55	1577.26	143.39	5.60	2725.66	427.67	2.00	.	.	.
Kuwait	10	7.71	685.97	102.34	10.21	916.45	107.27	3.67	72.59	19.20	115.63
Malaysia	17	8.07	813.89	100.59	8.85	1618.44	199.69	5.43	126.74	24.28	644.19
Maldives	1	6.57	185.24	29.34	6.71	321.04	24.70	3.14	27.66	8.88	.
Oman	2	7.46	957.01	120.68	8.95	2154.46	234.91	3.70	124.65	35.93	188.16
Pakistan	7	7.57	219.84	25.05	9.42	1345.50	117.62	2.09	62.24	21.64	568.29
Qatar	5	8.68	1940.15	221.88	12.98	4356.06	430.13	2.61	273.24	91.08	.
Saudi Arabia	4	10.28	1228.93	120.18	10.06	5541.22	689.26	4.37	.	.	111.32
South Africa	1	9.00	542.38	61.24	3.00	472.39	162.82	3.33	.	.	209.39
Turkey	1	8.48	.	.	9.17	910.20	221.84	.	.	.	.
United Arab Emirates	7	7.88	781.13	109.65	6.74	799.82	200.11	3.48	.	.	122.63
United Kingdom	5	6.88	701.75	102.88	2.31	979.62	489.81	2.91	577.50	192.50	.
Yemen	2	8.85	196.17	21.80	9.36	297.97	36.55	3.57	.	.	.
Total	104										
Average		8.43	713.75	85.38	8.21	1648.95	229.51	3.67	133.60	41.86	282.59

Note: Please see Table 1 for variable definitions. All remuneration variables (DirRem, ExRem, SSBRem, and CEORem) are in thousand USD.

TABLE 3 | Predicted and excess remuneration value.

	DirRem		SSBRem		ExRem		CEORem	
CountryID	**Predicted**	**Excess**	**Predicted**	**Excess**	**Predicted**	**Excess**	**Predicted**	**Excess**
Bahrain	322.70	151.93	60.57	33.31	948.69	225.49	130.69	26.93
Bangladesh	124.44	−15.40	20.47	7.51	277.02	−140.25	138.13	5.33
Egypt	597.21	76.32	9.63	0.25	3,072.77	197.29	.	.
Indonesia	231.02	102.03	64.83	8.36	839.82	172.58	.	.
Iraq	922.25	655.01	.	.	2,681.65	44.01	.	.
Kuwait	302.10	383.87	57.89	14.70	521.57	394.88	110.86	4.77
Malaysia	640.66	173.23	101.06	25.68	1,024.24	594.21	493.17	151.01
Maldives	173.32	11.92	27.56	0.10	321.04	0.00	.	.
Oman	415.17	541.85	122.32	2.33	1,520.99	633.47	185.85	2.31
Pakistan	170.01	49.83	42.32	19.92	981.83	363.67	507.50	60.79
Qatar	922.25	1,017.91	243.08	30.16	3,616.63	739.44	.	.
Saudi Arabia	919.29	309.64	.	.	3,915.48	1,625.74	108.10	3.22
South Africa	472.42	69.95	.	.	464.66	7.73	209.15	0.24
Turkey	.	.	.	.	880.31	29.89	.	.
United Arab Emirates	710.88	70.25	.	.	528.30	271.51	122.63	0.00
United Kingdom	557.73	144.01	491.17	86.33	959.59	20.03	.	.
Yemen	189.64	6.53	.	.	277.02	20.95	.	.
Average	479.44	234.30	112.81	20.79	1,343.03	305.92	222.90	28.29

Note: All values are in thousands of USD. The predicted value is the exponential of the fitted value of the estimation from Equation (1): $y = x1\ x2$. Excess is the difference between the real and predicted value of the remuneration.

of them have similar monitoring and advising functions in the bank but with a distinct focus. Islamic banks' SSB focuses on *Shariah*-related matters, whereas the BOD has a role in ensuring better performance-related issues. The BOD and SSB are parts of good Islamic governance, such as the emphasis on useful cooperation among authorities (companies) and members of communities (stakeholders). All of them are stressed in the *Al Quran* and *Sunnah* consensus (Jan et al. 2021)[14].

While previously the SSB was expected to focus on *Shariah*-related matters, recent discussion and empirical works even suggest that the SSB's role is vital and significant in bank performance (Elnahass et al. 2020; Farag et al. 2017; Mollah and Zaman 2015). The presence of reputed Islamic scholars in the SSB could maintain Islamic bank stakeholders' confidence, which indirectly leads to Islamic banks' performance. Nathan Garas and Pierce (2010) argue that the issued *fatwa* (Islamic judgement) could negatively affect the banks' performance and reduce stakeholders' confidence if negligent or unqualified *Shariah* scholars issue them. The failure of the SSB to meet stakeholders' expectations regarding the compliance of *Shariah*-related products and activities will therefore jeopardise the sustainability of Islamic banks (Meslier et al. 2020). This is because Islamic stakeholders could withdraw their funds from Islamic banks anytime when they perceive that the SSB does not work as it should (Ginena and Hamid 2015; Quttainah et al. 2013).

The SSB indeed has a substantial power to restrain management from engaging in aggressive risk-taking behaviour (Mollah and Zaman 2015), leaving a positive impact on the remuneration-stability nexus and also the positive impact of the SSB characteristics on the Islamic bank's performance (Mollah et al. 2016; Mollah and Zaman 2015). Good remuneration for *Shariah* scholar will be a good incentive for them to work more efficiently and fulfil their moral accountabilities (Elnahass et al. 2020). In this case, our result relevant to the 'efficiency wage hypothesis' and 'optimal contracting approach' theories emanating from the agency theory, especially for directors and SSB as part of the leader of the Islamic banks (Adams and Ferreira 2008; Bebchuk and Fried 2003; Unda and Ranasinghe 2019).

Regarding *ExcessEx* and *ExcessCEO*, we do not observe any significant impact. This means that the high remuneration design for the executives and CEO does not favour Islamic banks' stability and risk-taking. Looking back at the literature, this result is not without reason. Similar to their conventional peers, Islamic banks are in a heavily regulated environment. Financial institutions face a number of restrictions that will limit the investment opportunity sets. Bai and Elyasiani (2013) assert that financial institutions have limited growth options, extensively higher leverage, and are insured by depository institutions. Therefore, managers in financial institutions differ from those in non-financial firms because their managerial actions are limited by the regulation. Moreover, in the context

TABLE 4 | Baseline result: Excess compensation and bank stability.

	Excess =			
	Dir	**SSB**	**Ex**	**CEO**
	(1)	**(2)**	**(3)**	**(4)**
Excess	0.0520**	0.118***	0.0295	0.0146
	(0.0223)	(0.0321)	(0.0439)	(0.0301)
ROA	0.144***	0.139***	0.202***	0.0565
	(0.0211)	(0.0255)	(0.0313)	(0.0758)
Size	−0.385***	−0.410***	−0.370***	−0.360***
	(0.0494)	(0.0600)	(0.0684)	(0.128)
LATA	0.622***	0.825***	0.709**	0.684*
	(0.209)	(0.226)	(0.293)	(0.405)
CIR	0.00733	−0.0191	0.0170	0.0285
	(0.0287)	(0.0260)	(0.0400)	(0.0381)
INFL	−0.356	−1.011	0.224	−0.263
	(0.606)	(1.214)	(0.795)	(1.780)
GDPGR	0.839*	1.478*	0.991	4.372**
	(0.494)	(0.781)	(0.611)	(1.983)
Constant	7.132***	7.235***	7.116***	6.462***
	(0.688)	(0.806)	(0.994)	(1.153)
N obs.	720	427	493	229
N banks	103	65	79	33
R-sq.	0.460	0.536	0.496	0.573

Note: Random effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels respectively.

of Islamic banks, the executives and CEOs should also comply with *Shariah*. They cannot engage in the products forbidden by Islamic law, and to some extent, they have fewer opportunities than their conventional peers. For instance, when they have liquidity problems, they cannot seek funds from the money market because it is forbidden in Islam (Hassan et al. 2019). This argument is also supported by several empirical works. Houston and James (1995) do not find a significant impact of equity-based incentives and banks' charter value, and this is inconsistent with the hypothesis that compensation policies promote risk-taking incentives (moral hazard hypothesis). In a similar vein, employing a sample of 53 banks in Europe from 1999 to 2009, Ayadi in Barth et al. (2012) finds that the structure of compensation in the banking industry does not promote risk-taking.

Another reason why the excess remuneration of the executive and CEO does not favour Islamic banks' stability is that *Shariah* might also promote the collectivism value. For instance, a decision regarding the *Shariah* practice should be made collectively by all SSB members. Bitar et al. (2017) also report in their study that the mean of individualism culture in countries applying dual banking systems is 42%[15]. This means that collectivism values, in opposition to individualism values, are stronger in Muslim countries. Therefore, the moral hazard hypothesis should also be irrelevant in Islamic banks because Islamic banks' risk-taking is not determined by only the CEO or several people in the executives. The CEO and other board members' activities are limited only to their delegated banking tasks and policies (Jarque and Prescott 2020). Instead, it is more influenced by the activities of the whole organisation, such as their subordinates, particularly lending officers (Jarque and Prescott 2020). Moreover, although CEOs and executives receive substantially high excess remuneration, the highest portion of the labour wage paid by the banks always goes to the employees (Jarque and Prescott 2020).

5 | Robustness

5.1 | Split Sample: Small and Large Banks

We perform various robustness checks in this paper to ensure that our findings are strong. The first test splits the sample into banks below the average size (small banks) and those above the average (large banks). Table 5 shows that the coefficients of *ExcessDir* and *ExcessSSB* are negative and significant, similar to the result we obtained from the baseline. Once again, this result confirms that SSB plays an important role in *Shariah* governance within Islamic banking, regardless of bank size, as it has the authority to approve or reject an investment if it does not comply with *Shariah* (Meslier et al. 2020). Moreover, the directors or BOD also cannot approve a strategy without agreement from the SSB (Almutairi and Quttainah 2020).

5.2 | Other Estimations of Excess Remuneration

We also conduct additional robustness checks in this paper by changing one of the main points of this paper: the computation of the excess remuneration. As aforementioned, we follow Uhde (2016) by estimating the remuneration using bank size, time-fixed effects, and country-fixed effects. In the first robustness check, we use two other measures of excess. For the first excess proxy, we follow Uhde (2016) by only considering bank size to estimate remuneration because it is regarded as the most important factor in the banks' remuneration design. Executives typically will obtain higher pay in larger banks, and this is done to recompense the risk of larger banks they have to manage. Moreover, our result in Table 4 strongly shows a negative association between Size and z-score, implying a higher risk-taking from risky activities conducted by larger banks (Ibrahim et al. 2019). Therefore, the first alternative model of remuneration estimation is as follows.

$$\text{Rem}_{it} = \alpha_0 + \beta_1 \text{Size}_{it} + \varepsilon_{i,t} \quad (4)$$

According to Brick et al. (2006), excess remuneration could also be measured by regressing real executive remuneration on all variables hypothesised to explain compensation. These variables are bank-level variables that presumably become strong predictors for remuneration (Hearn 2013). Therefore, we

TABLE 5 | Robustness: Small versus large banks.

	Small				Large			
	Dir	**SSB**	**Ex**	**CEO**	**Dir**	**SSB**	**Ex**	**CEO**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Excess	0.0846**	0.143**	−0.0390	0.484*	0.0408*	0.142**	0.0472	0.0116
	(0.0431)	(0.0622)	(0.0996)	(0.250)	(0.0208)	(0.0566)	(0.0372)	(0.0221)
ROA	0.0972***	0.0680***	0.163***	−0.00261	0.447***	0.0503	0.239***	0.778**
	(0.0256)	(0.0233)	(0.0413)	(0.120)	(0.0817)	(0.109)	(0.0398)	(0.370)
LATA	1.354***	1.800***	1.683***	1.884**	−0.104	0.382	−0.164	−0.195
	(0.362)	(0.476)	(0.525)	(0.819)	(0.243)	(0.453)	(0.264)	(0.325)
CIR	0.0900**	0.0856**	0.114**	0.102	0.154***	0.0545	0.0843**	0.178***
	(0.0356)	(0.0426)	(0.0487)	(0.0766)	(0.0416)	(0.0544)	(0.0411)	(0.0631)
INFL	−1.173	−2.142	−0.756	0.962	0.419	1.329	1.619*	3.290**
	(1.327)	(2.260)	(1.536)	(4.146)	(0.620)	(1.228)	(0.932)	(1.368)
GDPGR	0.343	3.368	0.275	8.618*	1.133**	1.660	1.592**	2.180
	(1.230)	(3.083)	(1.720)	(4.887)	(0.572)	(1.053)	(0.685)	(1.906)
Constant	2.191***	1.614***	2.263***	2.650***	1.330***	1.125***	1.822***	1.974***
	(0.269)	(0.372)	(0.814)	(0.300)	(0.344)	(0.277)	(0.511)	(0.263)
N obs.	330	194	206	70	390	233	287	159
N banks	61	38	42	12	61	43	50	26
R-sq.	0.375	0.391	0.433	0.390	0.232	0.133	0.353	0.439

Note: Random effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

construct the following equation adopting prior literature such as Dah and Frye (2017) to estimate the second alternative model of excess estimation.

$$\text{Rem}_{it} = \alpha_0 + \beta_1 \text{LATA}_{it-1} + \beta_2 \text{Size}_{it-1} + \beta_3 \text{LLR}_{it-1} + \beta_4 \text{ROA}_{it-1} + \beta_4 \text{YearFE}_{it-1} + \epsilon_{i,t} \quad (5)$$

In Equation (5), there are four aspects presumably associated with the amount of remuneration in the firm: (i) LATA, defined as liquid assets to total assets, to proxy liquidity; (ii) Size, calculated as the logarithm of total assets to proxy firm complexity; (iii) LLR, defined as the ratio of loan loss reserve to total loan, to measure monitoring need, and (iv) ROA or return on assets to measure bank performance. Equation (6) is estimated using the fixed effects method.

We provide the result of using two alternative approaches of excess estimation in Table 6. It could be seen that the two other excesses also provide similar results. The *ExcessDir* and *ExcessSSSB* are significant (columns 1, 2, 5, and 6) whereas *ExcessEx* and *ExcessCEO* are not significant (columns 3, 4, 7, and 8). It could be therefore concluded that using other computations of excess does not alter our main result.

5.3 | Another z-Score Approach

For the second robustness check, we change the dependent variable. The z-score is the widely used risk-taking measurement in the banking literature because of its simplicity in constructing the measurements. As aforementioned earlier, there are various z-score proxies and in this paper, for alternative, we use Lepetit and Strobel (2013)'s method. Their z-score is technically calculated by using mean and standard deviation estimates of ROA calculated over the full sample and combining these with the current period of EQTA as follows.

$$Z_{it} = \frac{\mu \text{ROA} + \text{EQTA}_{it}}{\sigma \text{ROA}} \quad (6)$$

Lepetit and Strobel (2013) show that the z-score, as in Equation (6), is also a sound z-score measurement compared to other proxies because it empirically displays a fair level of intertemporal volatility on bank level and low-level potentially spurious volatility compared to the construction of time-varying z-score more generally. It is also very practical because the calculation does not need to drop observations as in the rolling method.

TABLE 6 | Robustness: Using other estimations of Excess.

	Excess by Uhde (2016)				Excess by Dah and Frye (2017)			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0547***	0.135***	0.0201	−0.00345	0.0590***	0.127***	0.0365	0.00458
	(0.0201)	(0.0348)	(0.0334)	(0.0179)	(0.0200)	(0.0422)	(0.0230)	(0.0218)
ROA	0.144***	0.141***	0.203***	0.0571	0.133***	0.184***	0.136***	−0.389
	(0.0214)	(0.0244)	(0.0317)	(0.0762)	(0.0286)	(0.0261)	(0.0400)	(0.558)
Size	−0.384***	−0.385***	−0.370***	−0.359***	−0.399***	−0.469***	−0.389***	−0.236***
	(0.0492)	(0.0574)	(0.0684)	(0.127)	(0.0584)	(0.0818)	(0.0839)	(0.0848)
LATA	0.624***	0.831***	0.711**	0.689*	0.196	0.253	0.123	0.0291
	(0.208)	(0.224)	(0.291)	(0.406)	(0.202)	(0.246)	(0.280)	(0.398)
CIR	0.00839	−0.0170	0.0174	0.0287	−0.0330	−0.0781***	−0.0405	0.0292
	(0.0288)	(0.0258)	(0.0404)	(0.0382)	(0.0234)	(0.0236)	(0.0320)	(0.0670)
INFL	−0.352	−0.961	0.206	−0.318	−0.402	−1.680*	0.0652	0.686
	(0.606)	(1.193)	(0.782)	(1.832)	(0.480)	(0.935)	(0.622)	(1.120)
GDPGR	0.849*	1.448*	0.996	4.429**	0.861*	0.801	1.035*	3.127*
	(0.495)	(0.773)	(0.610)	(1.968)	(0.493)	(0.617)	(0.590)	(1.632)
Constant	7.120***	6.837***	7.134***	6.446***	7.339***	8.341***	7.368***	4.208***
	(0.687)	(0.768)	(0.989)	(1.151)	(0.826)	(1.149)	(1.244)	(1.291)
N obs.	720	427	493	229	523	306	382	189
N banks	103	65	79	33	86	56	72	29
R-sq.	0.462	0.537	0.496	0.573	0.401	0.464	0.417	0.491

Note: Random effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

We provide the result in Table 7 column (1–4). It is clear that our result is still consistent. We do not find any changes in the significance of our main variables.

5.4 | Robustness Checks for Endogeneity

Prior studies such as Uhde (2016) and Unda and Ranasinghe (2019) highlight the potency of endogeneity stemming from the reverse-causality issue between remuneration and risk. On the one hand, we hypothesise in this paper that risk-taking is a function of remuneration, and we obtain the result as predicted. On the other hand, remuneration is also a function of risk-taking because the firm with higher risk-taking will pay its managers more as a result of the firm's risk, which the managers have to take into account. In other words, the bank's risk may not be determined solely by the remuneration of the current year. However, previous remuneration could also have a significant effect. To solve this issue, we lag our excess variables and provide the result in columns (5–8) of Table 7. We find a positive and significant coefficient for *ExcessDir* and *ExcessSSB*, significant at the 10% and 5% levels, respectively, which is similar to our main result. The variables *ExcessEx* and *ExcessCEO* also show similar results, as they are insignificant.

In addition to using lagged remuneration or independent variables, we also use the generalised method of moments (GMM) since this technique uses lagged dependent variables as internal instruments to control for endogeneity (Roodman 2009). GMM can internally transform the data using a first-differencing transformation (one-step GMM) or a second-order transformation (two-step GMM). We used the two-step GMM to minimise data loss during the transformation process, as it provides more precise results (Arellano and Bover 1995). The results in Table 8 remain robust, with *ExcessDir* and *ExcessSSB* showing significant influence on bank risk.

5.5 | Other Robustness Checks

To provide various robustness checks for our findings, we conduct other robustness checks. First, we follow Uhde (2016) using the fixed effect technique to re-estimate Equation (3) which

TABLE 7 | Robustness: LogZ_alt and Lag Excess.

	Dependent variable = LogZ_alt				Dependent variable = LogZ			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0461***	0.115***	0.0322	0.00443				
	(0.0164)	(0.0390)	(0.0223)	(0.0210)				
Lag Excess					0.0425*	0.0710**	−0.0101	−0.00759
					(0.0217)	(0.0343)	(0.0354)	(0.0280)
ROA	0.0382*	0.0555*	0.0243	−0.550	0.0744***	0.0640***	0.0803***	−0.0268
	(0.0198)	(0.0296)	(0.0235)	(0.439)	(0.0167)	(0.0247)	(0.0263)	(0.137)
Size	−0.378***	−0.423***	−0.334***	−0.262***	−0.338***	−0.364***	−0.286***	−0.387***
	(0.0548)	(0.0810)	(0.0779)	(0.0864)	(0.0396)	(0.0504)	(0.0571)	(0.138)
LATA	0.216	0.202	0.131	−0.0467	0.431***	0.495**	0.340	0.193
	(0.188)	(0.220)	(0.254)	(0.345)	(0.164)	(0.194)	(0.227)	(0.360)
CIR	−0.0157	−0.0412**	−0.0190	0.0284	0.00329	0.00235	0.00964	0.0327
	(0.0193)	(0.0192)	(0.0244)	(0.0612)	(0.0192)	(0.0187)	(0.0237)	(0.0509)
INFL	−0.478	−1.594*	−0.141	0.512	−0.674	−1.554	−0.883	−0.949
	(0.455)	(0.819)	(0.607)	(0.994)	(0.512)	(1.073)	(0.761)	(1.311)
GDPGR	0.807*	0.836	1.068*	3.051**	1.267**	1.098	1.829***	2.974*
	(0.488)	(0.565)	(0.589)	(1.482)	(0.525)	(0.759)	(0.698)	(1.542)
Constant	7.062***	7.691***	6.571***	4.668***	6.608***	6.831***	6.034***	6.812***
	(0.777)	(1.146)	(1.160)	(1.324)	(0.544)	(0.663)	(0.801)	(1.348)
N obs.	528	310	388	189	657	390	457	203
N banks	86	56	72	29	101	63	77	31
R-sq	0.373	0.413	0.343	0.578	0.345	0.388	0.314	0.573

Note: Random effects regressions. Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

presents the result in Table 9 column (1–4). The results do not change, and the level of significance is similar to those in our baseline result. The *ExcessDir* and *ExcessSSB* are significant at levels of 5% and 1%, respectively.

Second, some studies such as Unda and Ranasinghe (2019) use the real value of remuneration and do not estimate the excess. This is very reasonable if we do not have the purpose of estimating the excess and our analysis only focuses on the impact of remuneration levels on risk-taking. In this last robustness, instead of using excess, we estimate Equation (3) using the real value of remuneration (in the logarithm form). However, we find no changes in the results, as shown in Table 9 column (5–8).

6 | Conclusion

This paper investigates how the remuneration policy in Islamic banks shapes risk-taking. Specifically, we investigate whether a high remuneration policy in Islamic banks could provide the board incentive for risk-taking, aligned with the 'moral hazard hypothesis' or 'managerial power approach'. We collect data on the remuneration of the directors, SSB, executives, and CEOs of the 104 Islamic banks operating in 17 countries for the period between 2011 and 2019. We use all board types because those are an integral part of Islamic banks' governance, and this approach differs this study from other prior works either in Islamic or conventional banks. Our empirical finding suggests that the two aforementioned hypotheses are not confirmed. Although Islamic banks' boards are over-remunerated, the high payment received by the directors and the SSB can mitigate the risk-taking incentives and, therefore, maintain Islamic bank's stability. The BOD and SSB are integral parts of Islamic banks' governance. Each of them has its own important monitoring and advising function, and a good payment policy is needed for these functions. Whereas the BOD focuses on how Islamic banks behave prudently and maintain good accounting performance, the SSB has an objective to verify that all Islamic banks' transactions do not violate the *Shariah*. *Shariah* governance is even more

TABLE 8 | The generalized method of moments (GMM).

	Excess =			
	Dir	**SSB**	**Ex**	**CEO**
	(1)	**(2)**	**(3)**	**(4)**
Excess	0.0251*	0.0673***	0.0309	−0.00553
	(0.0131)	(0.0154)	(0.0237)	(0.0127)
L.LogZ	0.580***	0.458***	0.520***	0.435***
	(0.0337)	(0.0225)	(0.0323)	(0.0564)
ROA	0.166***	0.161***	0.209***	−0.00332
	(0.0103)	(0.00754)	(0.0114)	(0.0158)
Size	−0.407***	−0.594***	−0.461***	−0.569***
	(0.0367)	(0.0256)	(0.0358)	(0.0797)
LATA	−0.00160	0.0755	0.00742	0.286
	(0.0949)	(0.0745)	(0.0987)	(0.236)
CIR	−0.0279***	−0.0504***	−0.0199	−0.0776*
	(0.00987)	(0.00716)	(0.0128)	(0.0455)
INFL	−0.162	0.238	0.0602	0.696*
	(0.180)	(0.313)	(0.218)	(0.392)
GDPGR	0.148	0.0574	−0.145	0.134
	(0.206)	(0.232)	(0.306)	(1.327)
Constant	6.547***	9.218***	7.463***	9.212***
	(0.553)	(0.411)	(0.531)	(1.233)
N obs.	501	283	320	165
N banks	95	58	67	27
Sargan test	38.40	34.95	30.45	9.478
AR1 (*p* value)	0.0857	0.0062	0.1555	0.0468
AR2 (*p* value)	0.5061	0.7912	0.8144	0.9196

Note: The generalized method of moments estimation. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country fixed effects. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

important nowadays because it provides the public and customers with confidence regarding *Shariah*-related matters. These aspects can mitigate the risk uniquely in Islamic banks, such as withdrawal risk. All in all, our results support another theory augmented by the agency theory, that is, the 'efficiency wage hypothesis' or 'optimal contracting approach'.

In this paper, we also find that excess remuneration in executives and CEOs does not impact Islamic banks' risk-taking incentives. Different from the advisory and supervisory roles played by the BOD and SSB, the executives and CEO have a direct role in managing companies' day-to-day activities and possibly have a direct role in the risk-taking policy of Islamic banks. However, it should be noted that financial institutions are different from non-financial institutions. The banks are considered one of the most highly regulated institutions and therefore the CEO and managers have limited growth and investment opportunities. The banks also have a distinct leverage profile, which makes them behave very prudently because of their interconnectedness with other banks and other non-financial institutions. The fact that Islamic banks have lots of *Shariah* objectives and requirements could also be the driver of the minor managerial role of the executives and CEOs of Islamic banks.

Our findings have great implications for the regulators. The main issue brought from the result of this paper is that good monitoring activities from the BOD and *Shariah* board will have a significant impact on reducing risk-taking incentives and, therefore, promoting the soundness of Islamic banks. The BOD and SSB are an integral part of the Islamic banks' good governance system. Theoretically, there should be more extensive monitoring activities rather than those in conventional

TABLE 9 | Robustness: Fixed-effects estimation and the real value of remunerations.

	Fixed effects regression				Real value			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0509**	0.0965***	0.0287	0.00288				
	(0.0246)	(0.0311)	(0.0441)	(0.0247)				
Rem					0.0546***	0.103***	0.0297	0.0115
					(0.0189)	(0.0274)	(0.0321)	(0.0191)
ROA	0.160***	0.187***	0.221***	0.0137	0.144***	0.141***	0.203***	0.0565
	(0.0209)	(0.0302)	(0.0268)	(0.0279)	(0.0215)	(0.0244)	(0.0314)	(0.0759)
Size	−0.560***	−0.728***	−0.637***	−1.031***	−0.393***	−0.407***	−0.377***	−0.364***
	(0.0869)	(0.114)	(0.122)	(0.108)	(0.0494)	(0.0593)	(0.0682)	(0.129)
LATA	0.475**	0.554***	0.480**	0.332	0.624***	0.858***	0.705**	0.686*
	(0.185)	(0.186)	(0.240)	(0.293)	(0.209)	(0.225)	(0.291)	(0.405)
CIR	−0.0283	−0.0943***	−0.0468	−0.189***	0.00874	−0.0148	0.0177	0.0284
	(0.0310)	(0.0316)	(0.0508)	(0.0311)	(0.0288)	(0.0261)	(0.0402)	(0.0380)
INFL	−0.541	−1.390	−0.133	−1.434	−0.357	−0.941	0.219	−0.265
	(0.555)	(1.068)	(0.710)	(1.210)	(0.609)	(1.209)	(0.779)	(1.783)
GDPGR	0.862*	1.416**	0.802	4.354***	0.844*	1.543*	0.993	4.379**
	(0.468)	(0.665)	(0.533)	(0.772)	(0.495)	(0.789)	(0.611)	(1.974)
Constant	9.387***	11.54***	10.58***	16.36***	6.928***	6.712***	7.035***	6.433***
	(1.255)	(1.631)	(1.761)	(1.653)	(0.687)	(0.791)	(1.015)	(1.137)
N obs.	720	427	493	229	720	427	493	229
N banks	103	65	79	33	103	65	79	33
R-sq.	0.476	0.586	0.532	0.727	0.463	0.540	0.497	0.573

Note: Please see Table 1 for variable explanations. The dependent variable is bank stability (LogZ). All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

banks because the two layers of governance supervise the CEO and managers in Islamic banks. Therefore, it is plausible that the regulators should provide a good remuneration design, especially for the BOD and SSB. In some countries, such as Indonesia and Malaysia, the government has taken specific action on this issue, such as regarding the appointment and validation of the *Shariah* board in each Islamic bank.

Acknowledgments

The early draft of this paper was written while Tastaftiyan was serving as a post-doctoral fellow at the University of New Orleans in 2021. We thank AMINEF-Fulbright for funding this research. We also thank Inas Nurfadia Futri and Bimo Saktiawan for their assistance, particularly with the data. All errors remain the sole responsibility of the authors.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Endnotes

[1] https://tribune.com.pk/story/672546/takeaway-the-curious-case-of-a-bank-ceos-salary.

[2] https://www.forbes.com/sites/rainerzitelmann/2019/10/07/why-do-so-many-people-think-that-ceos-earn-too-much/?sh=2d11af03152e.

[3] Meezan Bank is Pakistan's first and largest Islamic bank, offering a range of Shariah-compliant products.

[4] See, for example, (Daher et al. 2015) and (van Greuning and Iqbal 2008) for more details.

[5] For brevity, we do not provide a list of all prior studies on the issue of stability and risk-taking.

[6] In Islamic banks, the board of directors and *Shariah* supervisory board is an integral part of governance. Each board type provides one layer of governance to increase the effectiveness of Islamic banks' operational activities, which substantially differs from those of conventional peers.

[7] Indeed, there are a large number of Islamic scholars. However, the number of reputable Islamic scholars who are publicly well-known and who bring confidence to Islamic banks' customers is very limited.

[8] Gümüsay (2015) highlights that in Islam when people work, they see work as a religious duty, a form of 'wor(k)ship' to seek God's bounty.

[9] The term 'trade' refers to *Murabaha* contracts, while 'equity financing' refers to *Mudaraba* and *Musharaka* contracts. Please see (Meslier et al. 2020; and Silvia et al. 2024) for details.

[10] This approach aligns with previous researchers, such as Mueller and Sfrappini (2022) who ended their sample in 2019 to avoid the impact of COVID-19 on regulatory risk and bank lending; Essers and Ide (2019) who created a sub-sample of programs related to IMF to avoid the confounding effects of crises; and Tekin and Polat (2020) who excluded period of the Dot-com bubble in the United States during 1995–2001.

[11] This is also the reason why in this paper, we use the word 'remuneration' when we discuss our data and empirical method and empirical result.

[12] However, we will also use the real value of remuneration (not an excess) in the robustness section.

[13] For the sake of space, we do not provide the Tables of correlation and VIF in this paper, but they are available upon request.

[14] *Al Quran*: 3:104, 5:2, and 9:71.

[15] Bitar et al. (2017)'s sample is Muslim-dominated countries except for the Philippines, South Africa, and the United Kingdom.

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BUKTI KORESPONDENSI

ARTIKEL JURNAL INTERNASIONAL BEREPUTASI

Judul Artikel	:	Excess remuneration, governance, and risk-taking in Islamic banks
Penulis	:	1. Tastaftiyan Risfandy (Universitas Sebelas Maret, Indonesia 2. M. Kabir Hassan (University of New Orleans, United States)
Jurnal	:	International Journal of Finance and Economics
Terindeks	:	Scopus Q2
Link ScimagoJR	:	https://www.scimagojr.com/journalsearch.php?q=17332&tip=sid&clean=0
Link Scopus	:	https://www.scopus.com/pages/publications/105011816764?origin=resultslist
Link Web	:	https://onlinelibrary.wiley.com/doi/10.1002/ijfe.70022
Penerbit	:	Wiley

Korespondensi Email

No	Perihal	Tanggal
1	Email konfirmasi submit artikel	19 Juni 2023
2	Email keputusan editor untuk merevisi arttikel	20 Juni 2024
3	Email tambahan revisi dari editor	20 Juni 2024
4	Email meminta perpanjangan deadline revisi	23 Januari 2025
5	Email submit revisi	15 Februari 2025
6	Email menanyakan status revisi artikel yang sudah disubmit	9 Juni 2025
7	Email bahwa artikel diterima	10 Juli 2025
8	Email untuk proof (copyedit) artikel	22 Juli 2025
9	Email artikel sudah dipublikasikan online di web Wiley	25 Juli 2025

Lain-lain

No	Keterangan
1	Dashboard wiley (atyponrex) saat submission
2	Dashboard wiley (atyponrex) saat revision & accepted
3	Artikel yang disubmit pada tanggal 19 Juni 2024
4	Revisi artikel (track mode) yang disubmit tanggal 15 Februari 2025
5	Authors response
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The IJFE Team
International Journal of Finance and Economics

Referee(s)' Comments to Author:

Reviewer: 1 Comments (Recommendation Major Revision)

Comments to the Author
The manuscript is a good effort on the subject however, it could further improved by incorporating the following submissions.
1. The section-wise distribution need to be aligned with the standards described in author guidance's of IJFE, there is a need to have a separate literature review section and hypothesis of the study must designed.
2. The theoretical concepts/foundations discussed in the manuscript do not unified with results and it's seem that they are just showcased.
3. Appropriate methodology applied however, as equation 2 express country fixed effects were not given in the results tables. The variable ECO remuneration was consistently found insignificant requires justification.
4. Finally, the discussion and conclusion are presented reasonably however, they could be better if more in-depth discussions are in place in relation to literature contributions and policy implications keeping in view the applied theories.

Reviewer: 2 Comments (Recommendation Major Revision)

Comments to the Author
Reviewer on Manuscript ID IJFE-23-0953
Title: Excess remuneration, governance, and risk-taking in Islamic banks

The manuscript investigates the impact of remuneration on the governance and risk-taking behavior in Islamic banks. Utilizing a comprehensive dataset and robust methodology, the paper addresses a relevant topic in the field of finance, especially within the context of the growing Islamic banking sector. However, several areas need improvement to enhance clarity, robustness, and the overall contribution of the paper.
- Introduction and Literature Review: These sections are well-grounded in the literature but could be more concise. Consider restructuring these sections to improve readability and ensure that the primary research question stands out more clearly.
- Clearly articulate the research gap and the primary research question. Highlight the unique contributions of the study early on.
- Literature Review: While comprehensive, this section could be condensed to focus more directly on the most relevant studies and theories.
- Abstract: The abstract should provide a clearer summary of the key findings and their implications. Ensure that it highlights the main contributions of the study.
- Explanation of Findings: While the results are compelling, the discussion section should more explicitly link the findings back to the hypotheses and theoretical framework. Provide a deeper analysis of the implications of the results.
- Include more detailed tables that break down the results by different variables and provide a more granular analysis.
- Strengthen the discussion of the theoretical implications. Relate the findings to existing theories and discuss how they advance the current understanding of remuneration and governance in Islamic banks.
- Implications for Practice: Discuss the practical implications of the findings in more detail, particularly how the remuneration policies can be designed to mitigate risk-taking in Islamic banks.
- Methodology: Provide more details on the dataset, including the sources and the rationale for the selected period

(2011-2018). Ensure the methodological approach is described in a way that allows for replication.

- Expand the robustness checks by including additional alternative measures. This would strengthen the validity of the findings.
- Address potential endogeneity issues more comprehensively. This could involve using instrumental variables or other econometric techniques to ensure the robustness of the results.
- Language: The manuscript would benefit from a thorough review for language and grammatical errors. Clear and precise language will improve the overall readability of the paper.
- Figures and Tables: Ensure all figures and tables are clearly labeled and referenced appropriately in the text. This will aid in the comprehension of the presented data.

The paper addresses a timely and important topic with significant implications for the governance of Islamic banks. With major revisions to enhance clarity, robustness, and discussion, this manuscript has the potential to make a valuable contribution to the literature. I encourage the authors to address the comments and suggestions provided to improve the quality and impact of the paper.

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Tastaftiyan Risfandy <tastaftiyan.risfandy@staff.uns.ac.id>

IJFE-23-0953 - International Journal of Finance and Economics /2

1 message

IJFE Editorial Office <onbehalfof@manuscriptcentral.com> Thu, Jun 20, 2024 at 7:04 PM
Reply-To: ijfe.office@wiley.com
To: tastaftiyan.risfandy@staff.uns.ac.id

20-Jun-2024

Dear Dr. Tastaftiyan Risfandy

IJFE-23-0953 - Excess remuneration, governance, and risk-taking in Islamic banks

Please also see the Associate Editor Comments below:

The manuscript is a good effort on the subject however, it could further improved by incorporating the following submissions.
1. The section-wise distribution need to be aligned with the standards described in author guidance's of IJFE, there is a need to have a separate literature review section and hypothesis of the study must designed.
2. The theoretical concepts/foundations discussed in the manuscript do not unified with results and it's seem that they are just showcased.
3. Appropriate methodology applied however, as equation 2 express country fixed effects were not given in the results tables. The variable ECO remuneration was consistently found insignificant requires justification.
4. Finally, the discussion and conclusion are presented reasonably however, they could be better if more in-depth discussions are in place in relation to literature contributions and policy implications keeping in view the applied theories.

Sincerely,

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Tastaftiyan Risfandy <tastaftiyan.risfandy@staff.uns.ac.id>

AW: Revision extension for IJFE-23-0953

3 messages

Beckmann, Joscha <joscha.beckmann@fernuni-hagen.de> Fri, Jan 24, 2025 at 5:39 AM
To: "tastaftiyan.risfandy@staff.uns.ac.id" <tastaftiyan.risfandy@staff.uns.ac.id>, "ijfe.office@wiley.com" <ijfe.office@wiley.com>
Cc: "mhassan@uno.edu" <mhassan@uno.edu>

Dear Tastaftiyan,

I'm happy to give you more time. Simram, can you adjust the system.

Regards
Joscha

-----Ursprüngliche Nachricht-----
Von: Tastaftiyan Risfandy <onbehalfof@manuscriptcentral.com>
Gesendet: Donnerstag, 23. Januar 2025 23:36
An: ijfe.office@wiley.com
Cc: mhassan@uno.edu; Beckmann, Joscha <joscha.beckmann@fernuni-hagen.de>
Betreff: [Extern] Revision extension for IJFE-23-0953

Dear Editor,

I am in the process of revising the manuscript but the system has been closed. I did not get any notification or reminder from the IJFE about the deadline, so I did not know. I need more time because it is a major revision, and the reviewers asked us to add more data to the analysis (the executive remuneration data is hand-collected and across countries; well it has finished now). Therefore, please allow us to add more time to revise our manuscript and please kindly open the revision system again.

Best regards,
Tastaftiyan

Tastaftiyan Risfandy <tastaftiyan.risfandy@staff.uns.ac.id> Tue, Jan 28, 2025 at 5:43 PM
To: "Beckmann, Joscha" <joscha.beckmann@fernuni-hagen.de>
Cc: "ijfe.office@wiley.com" <ijfe.office@wiley.com>, "mhassan@uno.edu" <mhassan@uno.edu>

Dear Prof Beckman,

Thank you.
However, the revision (ScholarOne system) is still closed up to now.
I am about to finish the revision within one week, so please kindly reopen the revision system again.
Thank you very much.

Best regards,
Tastaftiyan
[Quoted text hidden]

IJFE.office <ijfe.office@wiley.com> Tue, Feb 4, 2025 at 3:23 PM
To: Tastaftiyan Risfandy <tastaftiyan.risfandy@staff.uns.ac.id>, "Beckmann, Joscha" <joscha.beckmann@fernuni-hagen.de>
Cc: "mhassan@uno.edu" <mhassan@uno.edu>

Dear Dr Risfandy,

Thank you for reaching out to us.

I have extended the due date to 11 February 2025.

Please feel free to contact us for any further assistance

Best regards,
Simran

Simran Verma
Editorial Assistant
International Journal of Finance & Economics
ijfe.office@wiley.com

From: Tastaftiyan Risfandy <tastaftiyan.risfandy@staff.uns.ac.id>
Sent: Tuesday, January 28, 2025 4:13 PM
To: Beckmann, Joscha <joscha.beckmann@fernuni-hagen.de>
Cc: IJFE.office <ijfe.office@wiley.com>; mhassan@uno.edu <mhassan@uno.edu>
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Revised manuscript submitted to International Journal of Finance & Economics

1 message

International Journal of Finance & Economics <no-reply@atyponrex.com> Sat, Feb 15, 2025 at 8:44 PM
To: Tastaftiyan Risfandy <tastaftiyan.risfandy@staff.uns.ac.id>

Dear Tastaftiyan Risfandy,

Your revised manuscript “Excess remuneration, governance, and risk-taking in Islamic banks” has been successfully submitted and is being delivered to the editorial office of *International Journal of Finance & Economics* for consideration.

Further information about your submission will be emailed to you by the journal editorial office. You may review your submission using the following link:

https://submission.wiley.com/submissionBoard/1/15906a09-ee86-4330-999b-7e0797c140ea

Thank you for your manuscript submission.

Sincerely,
The Editorial Staff at International Journal of Finance & Economics
ijfe.office@wiley.com

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Status of manuscript: IJFE-23-0953.R1

2 messages

Tastaftiyan Risfandy <tastaftiyan.risfandy@staff.uns.ac.id> Mon, Jun 9, 2025 at 11:12 AM
To: "Beckmann, Joscha" <joscha.beckmann@fernuni-hagen.de>, "IJFE.office" <ijfe.office@wiley.com>
Cc: Mohammad K Hassan <mhassan@uno.edu>

Dear Editor,

We would like to know the status of my manuscript submitted in IJFE (IJFE-23-0953.R1) entitled "Excess remuneration, governance, and risk-taking in Islamic banks" submitted on 15 Feb 2025. Thank you.

Regards,
Tastaftiyan

Simran Bhupendra Verma <ijfe.office@wiley.com> Thu, Jun 12, 2025 at 2:27 PM
Reply-To: Simran Bhupendra Verma <ijfe.office@wiley.com>
To: tastaftiyan.risfandy@staff.uns.ac.id
Cc: joscha.beckmann@fernuni-hagen.de, mhassan@uno.edu

Dear Dr Risfandy,

Thank you for reaching out to us.

I checked the submission and noticed that the article is currently waiting for the reviewers to return their scores.

Once the reviewer will return their scores, the editor will soon make a decision on the article. Additionally, I have raised this concern to higher authority to expediate the process.

Your patience in the meantime is much appreciated.

Best regards,
Simran

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IJFE - Decision on Manuscript IJFE-23-0953.R1

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Cc: tastaftiyan.risfandy@staff.uns.ac.id, mhassan@uno.edu

10-Jul-2025

Dear Dr. Risfandy,

It is a pleasure to accept your manuscript entitled "Excess remuneration, governance, and risk-taking in Islamic banks" in its current form for publication in International Journal of Finance and Economics. Importantly, however, please make sure there is an acknowledgment to the referees for their input in improving your research. This is still missing despite our earlier promptings.

Please take care to make sure all authors have carefully checked all equations, tables and figures as well as text when approving the proofs. Please also make sure there is an acknowledgment to the referees incorporated into your finalized paper to recognise their contribution.

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Thank you again for submitting your article. It is a very fine piece of work and we look forward to seeing it in print.

Kind regards

Keith Pilbeam
Ediot-in-Chief
International Journal of Finance and Economics

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Action: Proof of IJFE_EV_IJFE70022 for International Journal Of Finance & Economics ready for review

1 message

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To: tastaftiyan.risfandy@staff.uns.ac.id

Review your proof

IJFE_EV_IJFE70022

Dear **Dr. Tastaftiyan Risfandy,**

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Best regards,
International Journal Of Finance & Economics

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Tastaftiyan Risfandy <tastaftiyan.risfandy@staff.uns.ac.id>

Published: Your article is now published online!

1 message

noreply@wiley.com <noreply@wiley.com> Fri, Jul 25, 2025 at 6:10 AM
To: tastaftiyan.risfandy@staff.uns.ac.id

Dear Tastaftiyan Risfandy,

Your article Excess Remuneration, Governance, and Risk-Taking in Islamic Banks in International Journal of Finance & Economics has the following publication status: Published Online

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International Journal of Finance & Economics

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Submission Overview

Initial Submission

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Revision 1 - Accepted
Accepted on 10 July 2025

Initial Submission (this version)

This manuscript has been submitted to the editorial office for review. Changes cannot be made during editorial review, but you can view the information and files you submitted, below.

Review Decision Letter

Article Type	Research Article
Title	Excess remuneration, governance, and risk-taking in Islamic banks

Manuscript Files

Name	Type of File	Size
BLIND MANUSCRIPT.docx	Anonymized Main Document - MS Word	143 KB
TITLE PAGE.docx	Title Page	13.3 KB

Abstract

We investigate the impact of remuneration of Islamic banks governance pertaining with the directors, *Shariah* supervisory board (SSB), executives, and CEO. Using the hand-collected data of dollar remuneration on those board members, we estimate their normal remuneration, and we find that all board types including the CEO are over-remunerated from USD 84,160 to 1,257,760. However, in further investigation, we find that the excess remuneration in the directors and SSB favors the Islamic banks particularly to lessen the risk-taking incentive. Our result highlights the importance of Islamic banks' two-layer governance system that has a role in preventing excessive risk-taking behavior. This is relevant with the theory of "efficiency wage hypothesis" and "optimal contracting approach" emanated in the agency theory literature. Our result suggests that the good design of remuneration for the directors and *Shariah* scholars will attenuate the agency problems in the context of Islamic banks. Regarding executives and the CEO, we do not find a significant impact of the excess remuneration. This is possibly because the Islamic banking industry faces a number of restrictions due to their presence as a heavy-regulated financial institution and voluminous *Shariah* requirements that have to be fulfilled in their operations.

Authors

Name	Email	Country/Location
M. Kabir Hassan [1]	mhassan@uno.edu	United States
Tastaftiyan Risfandy [2] Corresponding Author Submitting Author	tastaftiyan.risfandy@staff.uns.ac.id	Indonesia

0000-0002-5544-726X

Co-authors will be contacted via email to connect their ORCID iDs after the submission is completed

Affiliations

1. Department of Economics and Finance, University of New Orleans, New Orleans, LA

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2. Faculty of Economics and Business & Center for Fintech and Banking, Universitas Sebelas Maret, Surakarta 57126, Indonesia

Matched organization
Universitas Sebelas Maret Fakultas Ekonomi dan Bisnis
SURAKARTA, Indonesia

Additional Information

Is your data available?

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Funders

American Indonesian Exchange Foundation

Keywords

risk-taking; governance; excess compensation; excess remuneration; Islamic banks

Is this submission for a special issue?

No, this is not for a special issue

Has this manuscript been submitted previously to this journal?

No, it wasn't submitted previously

Cover letter / Comments

No, I don't have additional comments

History

Submitted On	19 June 2023 by Tastaftiyan Risfandy
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Submission Started	19 June 2023 by Tastaftiyan Risfandy

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My Submissions Tastaftiyan

International Journal of Finance & Economics

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Revision 1 - Accepted

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Review Decision Letter

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Article Type	Research Article
Title	Excess remuneration, governance, and risk-taking in Islamic banks

Manuscript Files

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REVGR REVISED ANONYMOUS MANUSCRIPT IJFE.docx	Anonymized Main Document - MS Word	177.6 KB	Revision 1
REV TITLE PAGE.docx	Title Page	13.4 KB	Revision 1
BLIND MANUSCRI	Main Document - Tracked	196.6 KB	Revision 1

Name	Type of File	Size	Last Modified
PT rev280125_FIN_1_TRACKED SUBMITTED.docx	Changes		
cover letter revison ijfe edgr.pdf	Cover letter / Comments	52.7 KB	Revision 1
AUTHORS RESPONSE IJFE_.docx	Author Response	23.5 KB	Revision 1

Abstract

We comprehensively investigate the impact of remuneration on the governance of Islamic banks pertaining to the board of directors (BOD), *Shariah* supervisory board (SSB), executives, and the chief executive officer (CEO). The research in this area is still muted, especially using samples of Islamic banks and involving all board member types. Using the hand-collected data of dollar remuneration on those board members, we estimate their "normal" remuneration, and we find that all board types, including the CEO, are over-remunerated from USD 112,810 to 497,440. However, in further investigation, we find that the excess remuneration in the directors and SSB favors the Islamic banks, particularly to lessen the risk-taking incentive. Our result highlights the importance of Islamic banks' two-layer governance system, which has a role in preventing excessive risk-taking behavior. Supporting the "efficiency wage hypothesis", the good remuneration design for the directors and *Shariah* scholars will attenuate the agency problems in the context of Islamic banks. Regarding executives and the CEO, we do not find a significant impact of the excess remuneration. This is likely because the Islamic banking industry faces a number of restrictions due to its presence as a heavily regulated financial institution and the voluminous *Shariah* requirements that must be fulfilled in its operations.

Authors

Name	Email	Country/Location
Tastaftiyan Risfandy [1]	tastaftiyan.risfandy@staff.uns.a	Indonesia

Name	Email	Country/Location
Corresponding Author Submitting Author 0000-0002-5544-726X	c.id	
M. Kabir Hassan [2] *No ORCID iD connected*	mhassan@uno.edu	United States

Co-authors that haven't connected their ORCID iD will be reminded via email after the revision is completed

Affiliations

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1. Faculty of Economics and Business & Center for Fintech and Banking, Universitas Sebelas Maret, Surakarta 57126, Indonesia

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SURAKARTA, Indonesia

2. Department of Economics and Finance, University of New Orleans, New Orleans, LA 70148, United States

Matched organization
University of New Orleans
NEW ORLEANS, United States

Additional Information

Is your data available?

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Funders

American Indonesian Exchange Foundation

Keywords

risk-taking; governance; excess compensation; excess remuneration; Islamic banks

Is this submission for a special issue?

No, this is not for a special issue

Cover letter / Comments

Yes, I'd like to add a cover letter or comments

(see Manuscript Files)

History	**Accepted On**	10 July 2025 by Editorial Office

Excess remuneration, governance, and risk-taking in Islamic banks

M. Kabir Hassan
Department of Economics and Finance, University of New Orleans, New Orleans, LA 70148, United States

Tastaftiyan Risfandy*
Faculty of Economics and Business & Center for Fintech and Banking, Universitas Sebelas Maret, Surakarta 57126, Indonesia

This draft: August 14th, 2021

Abstract

We investigate the impact of remuneration of Islamic banks governance pertaining with the directors, *Shariah* supervisory board (SSB), executives, and CEO. Using the hand-collected data of dollar remuneration on those board members, we estimate their normal remuneration, and we find that all board types including the CEO are over-remunerated from USD 84,160 to 1,257,760. However, in further investigation, we find that the excess remuneration in the directors and SSB favors the Islamic banks particularly to lessen the risk-taking incentive. Our result highlights the importance of Islamic banks' two-layer governance system that has a role in preventing excessive risk-taking behavior. This is relevant with the theory of "efficiency wage hypothesis" and "optimal contracting approach" emanated in the agency theory literature. Our result suggests that the good design of remuneration for the directors and *Shariah* scholars will attenuate the agency problems in the context of Islamic banks. Regarding executives and the CEO, we do not find a significant impact of the excess remuneration. This is possibly because the Islamic banking industry faces a number of restrictions due to their presence as a heavy-regulated financial institution and voluminous *Shariah* requirements that have to be fulfilled in their operations.

Keywords: risk-taking, governance, excess compensation, excess remuneration, Islamic banks

JEL Classification: G21, G28, J33, Z12

*) Corresponding author. Email: tastaftiyan.risfandy@staff.uns.ac.id

"*We get high salaries because we deserve them. If you pay peanuts, you get monkeys*."
—A CEO of a bank in Pakistan[1]

"*Does Disney CEO Bob Iger have a good explanation for why he is being compensated more than $400 million while workers at Disneyland are homeless and relying on food stamps to feed their families?"*
—Bernie Sanders[2]

1. Introduction

The remuneration or compensation of the company executives and directors will always be a hot topic to discuss. The statistics and report show that their total pay, especially the executives, is unrealistic and could be hundreds of times of average workers. For instance, Economic Policy Institute (2019) has revealed that the annual compensation of the CEO has grown 940% since 1978, and it is 278 times than their employees. Business Insider (2016) shows that the executives of the BBC even earn more than double than the UK Prime Minister. For senior executives, the recession is even only a history because they consistently receive a significant increase in their salary despite the downward employment rate (The Guardian, 2019). This condition creates many critics from the employees and even the policymakers.

One may argue that it is reasonable if the CEO receives multiple times of the employee's salary because they sit at the helm of the profit organization with billion dollars assets and they could be sacked at any time when the firm performance is poor (Alam, 2014). Chamorro-Premuzic (2016) asserts that C-suite leaders can be expected to influence the majority and organization and it differs to midlevel managers that only influence their team. In addition, Chamorro-Premuzic (2016) highlights that the CEO's pay differs from other employees because the personality and charisma of the CEO can shape the whole culture of the organization. Moreover, the CEO's judgment can affect the key managerial and strategic decision in the firm and their reputation or social capital can also affect the firm's stock price and valuation (Chamorro-Premuzic, 2016).

This paper extends the debate on the executives' pay especially in the banking environment. Compared to other industries, banks and other financial services are heavily regulated. Financial institutions are more prone to troubles by nature. Their interconnectedness with other banks and firms will significantly impact the whole economy, especially if they face financial distress (Casu et al., 2015). Therefore, the wrong design of the executive remuneration (e.g., excessive remuneration) could be the major driver of excessive risk-taking, becoming an additional cause of the financial crisis (Bebchuk and Fried, 2003). However, one may also argue that because financial institutions have limited growth options, extensively higher leverage, and are insured by the depository institutions (Bai and Elyasiani, 2013), their compensation scheme for executives and CEOs will lower impact on bank risk. The latter argument is supported by some empirical studies such as Houston and James (1995). Ayadi in

[1] https://tribune.com.pk/story/672546/takeaway-the-curious-case-of-a-bank-ceos-salary
[2] https://www.forbes.com/sites/rainerzitelmann/2019/10/07/why-do-so-many-people-think-that-ceos-earn-too-much/?sh=2d11af03152e

Barth et al. (2012) also finds that the structure of compensation in the banking industry does not promote risk-taking.

This paper focuses on Islamic banking as a particular type of bank using *Shariah* or Islamic law in their operations that have had substantial growth in the banking market recently. According to IFSB (2020), Islamic banks currently hold more than 70% of the Islamic financial services industry. Islamic banks have reported yearly growth of 12.75% and have an asset worth of USD 1,765.8 trillion as of 2019 (IFSB, 2020). Because of its significant development, the payment of their directors and executives also receives attention recently. For instance, the CEO of Meezan Bank is the second-highest-paid banker in Pakistan, and he receives Rs. 215 million or approximately USD 2,8 million in 2019 (Pakistani Journal, 2020)[3]. For comparison, this amount is considerably high because it is less than half of BNP Paribas CEO, who is categorized as the top 20 highest paid banking CEO in the world (Financial Times, 2017).

Our primary question in this paper is whether board remuneration could promote risk-taking in Islamic banks. This is an important issue to be investigated because Islamic banks in general possess a different risk profile than conventional ones. Although some studies suggest that they are less vulnerable during the financial crisis (Abedifar et al., 2013; Beck et al., 2013), Islamic banks have several limitations such as the difficulties of seeking funds from the money market when they face liquidity problems (Hassan et al., 2019). Moreover, because Islamic banks operate based on profit and loss sharing principles and most Islamic banks operate in the dual banking markets, they are also subject to some particular risks. The profit and loss sharing mechanism in Islamic banks implies that the return/profit that they will share with the depositors (on the liability side) will depend on the return/profit they receive from the entrepreneur/borrower (on the assets side). In other words, the higher return they obtain from the borrower, the higher money they give to the depositors. A problem then occurs when Islamic banks do not obtain an adequate return from the borrower, but on the other hand, they have to maintain return payment to the depositors. In the modern Islamic finance concept, this is called *displaced commercial risk*. If this risk is not well managed, withdrawal risk will also occur. It is a risk of losing deposits to competition from other Islamic or conventional banks when actual rates of return are lower than expectations or the prevailing rates of return offered by competitors.[4].

Since Islamic banks' risk profile substantially differs from those conventional peers, the whole design of the remuneration and its impact on bank risk should also not be the same. Recent studies have focused on Islamic banks' stability, soundness, and risk-taking (Abedifar et al., 2013; Beck et al., 2013). Some of them focus on the determinant of stability, such as size (Ibrahim and Rizvi, 2017), competition (Risfandy et al., 2020), lending behavior (Ibrahim and Rizvi, 2018), political risk (Al-Shboul et al., 2020), and some other issues[5]. However, to the best of our knowledge, we find no studies empirically examine the role of bank remuneration on Islamic banks' stability. Specifically, we contribute to the literature stream by focusing on the remuneration of all board types/highest layer in Islamic banks: board of directors, executive board, *Shariah* supervisory board, and the CEO. Recent studies in the conventional banks'

[3] Meezan Bank is Pakistan's first and largest Islamic bank that offers a range of Shariah-compliant products.
[4] See, e.g., (Daher et al., 2015) and (van Greuning and Iqbal, 2008) for more details.
[5] For brevity, we do not provide a list of all prior studies on the issue of stability and risk-taking.

sample look into remuneration issues only for bank executives and CEO[6]. Bai and Elyasiani (2013) employ CEO compensation sensitivity to risk, or *vega*, and find that higher *vega* is associated with lower bank stability. In a similar vein, Gande and Kalpathy (2017) observe that the amount of emergency loans and total loan days outstanding increases in the pre-crisis *vega*, suggesting that equity incentives in CEO compensation contracts are positively related to risk-taking in financial firms. Jiang et al. (2019) provide evidence on the relation between deferred cash compensation and risk-taking by analyzing a sample of 156 bank executives from 14 listed Chinese banks. Shah et al. (2017) find a negative relationship between CEO compensation and bank risk-taking both in the pre-and post-crisis period. Tian and Yang (2014) find that although CEO pay has dropped during the financial crisis, bank CEOs are still paid much better than their firms and shareholders. Using the simulation approach, Francis et al. (2015) find that regulatory changes can result in a change in the composition of managerial compensation, which creates an environment of incentives for enhanced risk-taking. Uhde (2016) provide empirical evidence for a risk-increasing impact of excess compensation of their executives from an analysis of 63 banks in 16 countries in Europe.

Our paper's focus is not solely on the remuneration of CEO and executives that often receive critics both from the media and academic literature. We also focus on the *Shariah* supervisory board (SSB), which became the second layer of governance in Islamic banks. Empirical studies about their role in the Islamic banks' governance is indeed well documented (Meslier et al., 2020; Mollah et al., 2016; Mollah and Zaman, 2015; Safiullah and Shamsuddin, 2018), but their position as the part of the board that received remuneration receives lack empirical investigation. It might be not surprising if the executives and CEO received hundreds of thousands of dollars per year because of their position. In the case of SSB, because the number of Islamic scholars is minimal (the supply), the SSB position is actually in great demand and should also receive vital attention.[7]. Plenty of Islamic scholars serves on more than one SSB and the high-profile SSB members could sit on 50-70 banks (Abdul-Rahman, 2010). A scholar in Islamic banks could charge the bank up to USD 88,500 per bank per year and the amount could reach USD 500,000 for the consultation of large transactions of capital markets (Khan and Bhatti, 2008; Oseni et al., 2016).

Concerning the compensation-risk taking nexus of the boards, two theories emanated from the literature. The first is the agency theory that highlights the problem of managerial power and discretion (Jensen and Meckling, 1976). Using their power, the managers could build their own empire and engage in any activities that do not align with the ultimate purpose of financial management: to increase shareholder wealth. The "optimal contracting approach" for their managers is predictably can provide managers with efficient incentives to maximize shareholder value (Bebchuk and Fried, 2003). Some other researchers note this as the "efficiency wage hypothesis" (Adams and Ferreira, 2008; Unda and Ranasinghe, 2019). Under this theory, it is hypothesized that the good design of compensation in the firm will positively impact bank soundness. The boards are more likely to work better if they are paid more (Unda

[6] In Islamic banks, the board of directors and *Shariah* supervisory board is an integral part of governance. Each board type provides one layer of governance to increase the effectiveness of Islamic banks' operational activities, which substantially differs from those of conventional peers. For this reason.

[7] Indeed, there are a large number of Islamic scholars. However, the reputable Islamic scholars that are publicly well-known and bring confidence to the Islamic banks' customers are very limited.

and Ranasinghe, 2019) and even for a small difference in financial rewards (Adams and Ferreira, 2008).

However, it is also argued that under the "managerial power approach" or "moral hazard hypothesis," executive compensation is not only a potential instrument for addressing agency problem but also part of agency problem itself (Bebchuk and Fried, 2003). By having a high compensation level, the executives could engage in excessive risk-taking to fulfill their targets and satisfy shareholder expectations. In the case of a financial institution, this problem could be more severe because of the recent global financial crisis caused by the increased risk-taking and pay motives of top executives of major banks (Ntim et al., 2013; Shah et al., 2017). It has also been largely discussed in the literature that risk-taking incentives in the bank are more pronounced than in the non-financial firm. Because the financial institution is highly leveraged, the manager and executives can shift risk to the dispersed debtholders (Uhde, 2016). This mechanism is even more relevant in the presence of deposit insurance corporations when the managers could take the excessive risk by expecting government bail-out to the depositors. In this regard, the risk may additionally be shifted to the regulators and taxpayers. In other words, the agency conflict that stems from excessive executive compensation could harm the stability of the financial market as a whole.

The remainder of this paper is as follows. Section two provides the background theory on the relationship between compensation and bank risk-taking. Section three highlights the methodology and econometrics approach to answer our research question. Section four provides the empirical result. Section five concludes.

2. Methodology

2.1. Sample selection

We collect the data of directors', SSB's, executives and CEO's remuneration/compensation from the annual report of all Islamic banks operating in the dual banking market worldwide. Our data is limited to the banks that: (1) publicly report the remuneration data in their annual report, and (2) have a match data with other datasets we retrieve from BvD BankFocus and WorldBank. We convert all remuneration data to a dollar value (USD) to better compare across countries. The period of this study is from 2011 to 2018. Our final datasets comprise 653 observations of 109 Islamic banks in 18 countries.

2.2. Dependent variable: The z-score

For the dependent variable, we use a z-score as a widely used measure of risk-taking in both Islamic and conventional banks. The z-score is prevalent in the empirical banking literature because the calculation is simple and can be constructed using only accounting information. The z-score has various approaches (see, e.g., Boyd et al. (2006), Yeyati and Micco (2007), Cihák and Hesse (2007)) and in this paper we follow the most widely used the z-score (Beck et al., 2013; Cihák and Hesse, 2007; Fiordelisi and Mare, 2014; Fu et al., 2014; Laeven and Levine, 2009; Risfandy et al., 2020) with the formula written in following the equation (1).

$$Z_{it} = \frac{ROA_{it} + EQTA_{it}}{\sigma ROA} \quad \dots \quad (1)$$

The ROA is return on assets and the EQTA corresponds to the capital-asset-ratio. The z-score technically shows the number of standard deviations that bank return has to fall below its expected value to deplete equity and make the bank insolvent (Fu et al., 2014). It uses the ROA and EQTA for each bank and each period and the standard deviation of all banks in all periods. According to Lepetit and Strobel (2013), this method could provide lower average RMSE (root mean squared errors) and it is better than the rolling method.

2.3. Independent variables: The excess remuneration

We define remuneration (that we extract the data from the annual report) as the total dollar cash remuneration received by either the directors, SSB, executives, or the CEO, in a given year. If it is not clearly stated in the annual report whether it is cash remuneration, we take the value of total remuneration. We argue that this method is reasonable because cash compensation has the highest portion in Asia (Groysberg et al., 2021). In Asian companies, remuneration is mostly from the base salary that is not market-driven, while long-term incentives such as equity compensation generally are not offered (Groysberg et al., 2021).[8]

In this paper, rather than using remuneration *per se*, we use excess remuneration as the more valid predictor of banks' risk-taking (Dah and Frye, 2017; Uhde, 2016)[9]. To calculate excess, we use a remuneration model following Uhde (2016): The total bank remuneration is a function of the bank size.

$$Rem_{it} = \alpha_0 + \beta_1 Size_{it} + \lambda\, CountryFE_j + \delta YearFE_t + \varepsilon_{i,t} \quad \ldots \quad (2)$$

Rem consists of *DirRem* (directors' remuneration), *SSBRem* (*Shariah* supervisory board remuneration), *ExRem* (executive remuneration), and *CEORem* (CEO remuneration); each of them is in logarithm form. Therefore, from equation (2), our estimation is four times—each time for each dependent variable. The excess is defined as the regression residuals. Following Uhde (2016), we add country and year fixed effects and estimate the equation using least square dummy variables (LSDV) because remuneration could vary across country and time. Islamic banks' dual banking market have notable differences country-by-country that should be taken into account. Some studies have reported that the institutional quality between countries matters in shaping Islamic banks' behavior (Bitar et al., 2017; Bitar and Tarazi, 2019; Meslier et al., 2017, 2020).

Residuals from equation (2) indeed are not in absolute value. A transformation using an exponential of logged residual is needed in order to obtain real 'excess' in USD. We could also calculate the predicted (normal) value of remuneration, taken from the exponential logged fitted value of the remuneration variable. Therefore, the real excess compensation could be defined as the difference between the exponential of logged director actual compensation and the exponential of predicted compensation.

[8] This is also the reason why in this paper we use the word "remuneration" when we discuss our data and empirical method and empirical result.

[9] However, we will also use the real value of remuneration (not an excess) in the robustness section.

2.4. Control variables

It is imperative to control for both bank- and country-specific factors when investigating the impact of excess remuneration because it could lessen the problem of omitted variable bias in the regression and, therefore, increase the estimation's validity. The first variable we use as a control in this paper is the return on assets (*ROA*) as a proxy for bank profitability following Unda and Ranasinghe (2019). Although more profitable firms are less likely to suffer financial distress (Dolde in Barth et al., 2012), other literature suggests that the nexus between profitability and risk-taking remains inconclusive (Martynova et al., 2020). Second, we introduce *Size* calculated from the logarithm of the banks' total assets. Larger banks tend to be riskier (Dbouk et al., 2020; Ferris et al., 2017) and recent studies in Islamic banks also show the negative impact of bank size on stability (Ibrahim and Rizvi, 2018; Risfandy et al., 2020). Third, we control for bank liquidity using the ratio of liquid assets to total assets (*LATA*) following prior empirical research (Dong et al., 2016; Risfandy et al., 2020; Uhde, 2016). We also consider bank inefficiency using cost to income ratio (*CIR*) following Beck et al. (2013). The operational inefficiency can increases bank risk, illustrating a moral hazard probability from poor (inefficient) banks that have greater incentives for risk taking (Abedifar et al., 2013). The next two variables we employ in this paper is inflation (*INFL*) and gross domestic product growth (*GDPGR*) to control for the differences between country economic conditions in our sample (Ibrahim and Rizvi, 2018; Risfandy et al., 2020).

2.5. Econometrics strategy

To investigate the impact of excess remuneration on bank risk taking, the following equation is constructed.

$$LogZ_{it} = \alpha_0 + \beta\ Excess_{it} + \varphi X_{it} + \gamma Z_{jt} + \varepsilon_{i,t} \quad \ldots \quad (3)$$

Excess is the excess remuneration obtained from the residuals of equation (2) and it comprises of *ExcessDir*, *ExcessSSB*, *ExcessEx*, and *ExcessCEO* in the logarithm form. *LogZ* is the logarithm of the z-score. *X* is a vector of bank-level control variables, whereas Z refers to a set of country-level control variables. Equation (3) is estimated using the fixed-effect method and we eliminate autocorrelation and heteroscedasticity problems using clustered standard errors at the bank levels.

3. Result

3.1. Descriptive statistics

Table 1 shows the descriptive statistics of the variables used in this research along with its brief definition/calculation. Especially for control variables, the statistics are consistent with the recent empirical research in Islamic banks (Al-Shboul et al., 2020; Hassan et al., 2019; Risfandy et al., 2020; Sobarsyah et al., 2020; among others). The ROA shows a mean of 1% and the maximum value is only 11%, suggesting that Islamic banks in our sample cannot show their strong ability to generate profit. On the other hand, Islamic banks could be categorized as safe in terms of their liquidity because the statistics show that Islamic banks in average have liquid assets of 21% over their total assets. The mean value of CIR is 50%, meaning that Islamic

banks in average have 51% of operating cost compared to their total income. In other words, Islamic banks do not have inefficiency problems in their business activities. For country-level variables, we have a 3% and 4% mean of inflation and GDP growth across countries in our sample, respectively.

[Table 1]

[Table 2]

Table 2 shows the average remuneration by country as well as the number of banks in each country and the average number of directors, SSB members, and executives in each country. Most of our bank sample comes from Malaysia (19 banks or 17% of the sample), Bahrain (18 banks or 16%), and Indonesia and Kuwait (11 banks or 10%). Some of the countries only have one bank available (Iraq, Lebanon, Maldives, South Africa, Turkey). The United Arab Emirates has the highest average number of directors (20 board members), while Indonesia has the lowest number (4 board members), possibly because Indonesia adapts the two-tier governance system (Risfandy et al., 2021). However, the lowest number of executives are surprisingly not from Indonesia but from the United Kingdom's Islamic banks (2 members). The highest number of executives in our sample is observed from Qatar (13 board members). The average of SSB members ranges between 2 (Iraq) and 8 (Bangladesh), and the total sample average is four members.

Regarding the dollar value of remuneration, the highest-paid individual directors can be spotted in Qatar. They receive approximately USD 174,460 per person, and this value is about 24 times that Bangladesh directors earn. In the case of executives, we observe that Saudi Arabia has the highest remuneration since our data shows that each executive can earn approximately USD 694,780 each year. Although Qatar is at the first rank regarding directors' remuneration, Qatar is on the fifth rank after Saudi Arabia, United Kingdom, Lebanon, and Iraq regarding executives' salaries. United Kingdom's *Shariah* board members are the most paid compared to other countries, as they can earn approximately USD 190,890 per year. This dollar value is even more than two times what Qatar's *Shariah* board earns, although they ranked as the second-highest-paid *Shariah* board member. We also provide the data for CEO yearly remuneration in our Table, and our statistics show that Malaysian CEOs have higher remuneration (approximately USD 654,770) than other CEOs. The lowest value could be observed from Bangladesh (USD 141,870), and this is also similar to other board-type remunerations.

[Table 3]

Table 3 shows the dollar values of predicted and excess remuneration. The directors, SSB, executives, and CEO in average are over-remunerated by approximately USD 395,780; USD 84,160; USD 1,257,760; and USD 420,100; respectively. By reflecting on the characteristics and performance of the banks (as we could see in the determinant of the remuneration in equation (2)), Qatar is the most over-paid country for the directors (with the excess of USD +758,400/year), followed by Iraq (USD +736,180/year) and Oman (USD

+406,110/year). Our statistics show that almost all directors are over-compensated, except Bangladesh that under-remunerated (USD –8,220/year).

For the SSB, the highest excess surprisingly does not come from the United Kingdom but from Bahrain (USD +35,330/year), while Lebanon is the only country that has underpaid SSB although at the very low value (USD –40/year). Regarding executives, Saudi Arabia is also number one in overpaid executives (USD +1,487,270/year), and this value is about 165 times the excess in South Africa (USD +9,860). Lebanon also possesses extremely high excess executive remuneration (USD +1,370,620/year), although their SSB members are underpaid. Bangladesh is the only country with underpaid executives, and the negative excess value is quite significant (USD –127,000). Our estimation shows that for the CEO, most of them are over-remunerated with the average value from our sample is USD +106,840. It is only South Africa that shows negative excess of the remuneration, though it is not a major issue because the amount is only USD –90 per year.

3.2. Main result

Before performing the regression, we also check for multicollinearity issues by using correlation matrix and variance inflation factors following Zhou et al. (2021). The result shows that there is no particular concern of multicollinearity between independent variables because the correlation coefficient VIF for all variables is less than 0.6 and 2, respectively[10].

[Table 4]

Table 4 shows that the *ExcessDir* and *ExcessSSB* have a positive association with bank stability while *ExcessEx* and *ExcessCEO* do not show any significant impact. The variables *ExcessDir* and *ExcessSSB* are significant in the 1% and 5% levels, respectively, suggesting that our result is strong. This empirical evidence means that the high remuneration scheme in the board of directors (BOD) and *Shariah* supervisory board (SSB) could lessen the risk-taking incentive in Islamic banks. This result emphasizes the importance of an inseparable two-layer governance system in Islamic banks. Both of them have similar monitoring and advising functions in the bank but in a distinct focus. Islamic banks' SSB focus on *Shariah*-related matters, whereas the BOD has a role in ensuring better performance-related issues. The BOD and SSB are parts of good Islamic governance, such as the emphasis on useful cooperation amongst authorities (companies) and members of communities (stakeholders). All of them are stressed in the *Al Quran* and *Sunnah* consensus (Jan et al., 2021)[11].

While previously the SSB is expected to focus on *Shariah*-related matters, recent discussion and empirical works even suggest that the SSB's role is vital and significant on the bank performance (Elnahass et al., 2020; Farag et al., 2017; Mollah and Zaman, 2015). The presence of reputed Islamic scholars in the SSB could maintain Islamic bank stakeholders' confidence, which indirectly leads to Islamic banks' performance. Nathan Garas and Pierce (2010) argue that the issued *fatwas* (Islamic judgment) could negatively affect the banks'

[10] For the sake of space, we do not provide the Tables of correlation and VIF in this paper, but they are available upon request.
[11] *Al Quran*: 3:104, 5:2, and 9:71

performance and reduce the stakeholders' confidence if they are issued by negligent or unqualified *Shariah* scholars. The failure of SSB to meet stakeholders' expectation regarding the compliance of *Shariah*-related products and activities will therefore jeopardize the sustainability of Islamic banks (Meslier et al., 2020). This is because the Islamic stakeholders could withdraw their fund anytime from Islamic banks when they perceive that the SSB does not work as it should be (Ginena and Hamid, 2015; Quttainah et al., 2013).

The SSB indeed have a substantial power to restrain management from engaging in aggressive risk taking behavior (Mollah and Zaman, 2015), leaving a positive impact of remuneration-stability nexus and also the positive impact of the SSB characteristics on the Islamic banks performance (Mollah et al., 2016; Mollah and Zaman, 2015). Good remuneration for the *Shariah* scholar will be a good incentive for them to work more efficiently and to fulfill their moral accountabilities (Elnahass et al., 2020). Our result in overall relevant with the "efficiency wage hypothesis" and "optimal contracting approach" theories emanated from the agency theory (Adams and Ferreira, 2008; Bebchuk and Fried, 2003; Unda and Ranasinghe, 2019).

Regarding *ExcessEx* and *ExcessCEO*, we do not observe any significant impact. This means that the high remuneration design for the executives and CEO does not favor Islamic banks' stability and risk-taking. Looking back at the literature, this result is not without reason. Similar to their conventional peers, Islamic banks are in a heavily regulated environment. Financial institutions face a number of restrictions that will limit the investment opportunity sets. Bai and Elyasiani (2013) assert that financial institutions have limited growth options, extensively higher leverage, and are insured by depository institutions. Therefore, the manager in the financial institutions differs from those in the non-financial firms because their managerial actions are limited by the regulation. Moreover, in the context of Islamic banks, the executives and CEOs should also comply with *Shariah*. They cannot engage in the products forbidden by Islamic law and to some extent, they have fewer opportunities than their conventional peers. For instance, when they have liquidity problems, they cannot seek funds from the money market because it is forbidden in Islam (Hassan et al., 2019). This argument is also supported by several empirical works. Houston and James (1995) do not find that a significant impact of equity-based incentives and banks' charter value and this is inconsistent with the hypothesis that compensation policies promote risk-taking incentives (moral hazard hypothesis). In a similar vein, employing a sample of 53 banks in Europe from 1999 to 2009, Ayadi in Barth et al. (2012) find that the structure of compensation in the banking industry does not promote risk-taking.

Another reason why the excess remuneration of the executive and CEO do not favor Islamic banks' stability is that because *Shariah* might be also promoting the collectivism value. For instance, a decision regarding the *Shariah* practice should be made collectively by all SSB members. Bitar et al. (2017) also report in their study that the mean of individualism culture in countries applying dual banking system is 42%[12]. This means that the collectivism values, as an opposition to the individualism value, are stronger in Muslim countries. Therefore, the moral hazard hypothesis should also be irrelevant in Islamic banks because Islamic banks' risk-taking

[12] Bitar et al. (2017)'s sample is Muslim-dominated countries except for the Philippines, South Africa, and the United Kingdom.

is not determined by only the CEO or several people in the executives. The CEO and other board members' activities are limited only to their delegated banking tasks and policies (Jarque and Prescott, 2020). Instead, it is more influenced by the activities of the whole organization, such as their subordinates, particularly lending officers (Jarque and Prescott, 2020). Moreover, although CEOs and executives receive a substantially high excess remuneration, the highest portion of the labor wage paid by the banks always goes to the employees (Jarque and Prescott, 2020).

4. Robustness

4.1. Other estimations of excess remuneration

We perform various robustness checks in this paper to ensure that our finding is strong. The first test is conducted by changing one of the main points of this paper: the computation of the excess remuneration. As aforementioned, we follow Uhde (2016) by estimating the remuneration using bank size, time fixed effects, and country fixed effects. In the first robustness checks, we use two other measures of excess. For the first excess proxy, we follow Uhde (2016) by only considering bank size to estimate remuneration because it is regarded as the most important factor in the banks' remuneration design. Executives typically will obtain higher pay in the larger banks, and it is to recompense the risk of larger banks they have to manage. Moreover, our result in Table 4 strongly shows a negative association between Size and z-score, implying a higher risk-taking from risky activities conducted by larger banks (Ibrahim et al., 2019). Therefore, the first alternative model of remuneration estimation is as follows.

$$Rem_{it} = \alpha_0 + \beta_1 Size_{it} + \varepsilon_{i,t} \quad \dots \quad (4)$$

According to Brick et al. (2006), excess remuneration could also be measured by regressing real executive remuneration on all variables hypothesized to explain compensation. These variables are bank-level variables that presumably become strong predictors for remuneration (Hearn, 2013). Therefore, we construct the following equation adopting prior literature such as Dah and Frye (2017) to estimate the second alternative model of excess estimation.

$$Rem_{it} = \alpha_0 + \beta_1 LATA_{it-1} + \beta_2 Size_{it-1} + \beta_3 LLR_{it-1} + \beta_4 ROA_{it-1} + \beta_4 YearFE_{it-1} + \varepsilon_{i,t} \quad \dots \quad (5)$$

In equation (5), there are four aspects presumably associated with the amount of remuneration in the firm: i) LATA, defined as liquid assets to total assets, to proxy liquidity; ii) Size, calculated as the logarithm of total assets to proxy firm complexity; iii) LLR, defined as the ratio of loan loss reserve to total loan, to measure monitoring need, and iv) ROA or return on assets to measure bank performance. The equation (6) is estimated using the fixed effects method.

[Table 5]

We provide the result of using two alternative approaches of excess estimation in Table 5. It could be seen that the two other excess also provides similar result. The *ExcessDir* and *ExcessSSSB* are significant (columns 1, 2, 5, and 6) whereas *ExcessEx* and *ExcessCEO* are not significant (columns 3, 4, 7, and 8). It could be therefore concluded that using other computations of excess does not alter our main result[13].

4.2. Another z-score approach

For the second robustness check, we change the dependent variable. The z-score is the widely used risk-taking measurement in the banking literature because of its simplicity in constructing the measurements. As aforementioned earlier, there are various z-score proxies and in this paper, for alternative, we use Lepetit and Strobel (2013)'s method. Their z-score is technically calculated by using mean and standard deviation estimates of ROA calculated over the full sample and combining these with the current period of EQTA as follows.

$$Z_{it} = \frac{\mu ROA + EQTA_{it}}{\sigma ROA} \quad \dots \quad (6)$$

Lepetit and Strobel (2013) show that the z-score as in equation (6), is also a sound z-score measurement compared to other proxies because it empirically displays a fairly level of intertemporal volatility on bank-level and low level potentially spurious volatility compared to the construction of time-varying z-score more generally. It is also very practical because the calculation does not need to drop observations as in the rolling method.

[Table 6]

We provide the result in Table 6 column (1)-(4). It is clearly seen that our result is still consistent. We do not find any changes in the significance of our main variables.

4.3. Other robustness checks

We conduct three other robustness checks. First, prior studies such as Uhde (2016) and Unda and Ranasinghe (2019) highlight the potency of endogeneity stemmed from the reverse-causality issue between remuneration and risk. On the one hand, we hypothesize in this paper that risk-taking is a function of remuneration, and we obtain the result as predicted. On the other hand, one might also say that remuneration is a function of risk-taking because the firm with higher risk-taking will pay their managers more as a result of the firm's risk that the managers have to take into account. To solve this issue, we lag our excess variables, and we provide the result in the column (5)-(8) of Table 6. We find a positive and significant coefficient for the *ExcessDir* and this is similar to our main result. The variables *ExcessEx* and *ExcessCEO* also show similar result. The *ExcessSSB* also shows a positive association with the z-score, though the significance diminishes.

[Table 7]

[13] We do not show the two other excess computation statistics, but it is available upon request.

Second, previous works highlighted that the fixed effects regression technique is inappropriate for variables that rarely changes from year to year (Arifin et al., 2020; Mollah and Zaman, 2015). Because the remuneration of the board in the same banks (within individual) slightly changes across years, one may argue that the random effects method is more appropriate than fixed effects. We therefore re-estimate equation (3) using random effects technique and present the result in Table 7 column (1)-(4). Our results do not change and the level of significance is similar to those in Table 4.

Third, some studies such as Unda and Ranasinghe (2019) use the real value of remuneration and do not estimate the excess. This is very reasonable if we do not have the purpose of estimating the excess and our analysis only focuses on the impact of remuneration levels on risk-taking. In this last robustness, instead of using excess, we estimate equation (3) using the real value of remuneration (in the logarithm form). However, we find no changes in the results, as shown in Table 7 column (5)-(8).

5. Conclusion

This paper investigates how the remuneration policy in Islamic banks shapes risk-taking. Specifically, we investigate whether a high remuneration policy in Islamic banks could provide the board incentive for risk-taking, aligned with the "moral hazard hypothesis" or "managerial power approach." We collect the data of the remuneration of the directors, SSB, executives, and CEOs of the 109 banks operating in 18 countries for the period between 2011 and 2018. We use all board types because those are an integral part of Islamic banks' governance, and this is approach differs this study from other prior works either in Islamic or conventional banks. Our empirical finding suggests that the two aforementioned hypotheses are not confirmed. Although Islamic banks' board are over-remunerated, the high payment received by the directors and the SSB can mitigate the risk taking incentives and therefore maintain Islamic banks stability. The board of directors (BOD) and SSB are two integral and inseparable parts of Islamic banks' governance. Each of them has its own important monitoring and advising function, and a good payment policy is needed for these functions. Whereas the BOD focuses on how Islamic banks behave prudently and maintain good accounting performance, the SSB has an objective to verify that all Islamic banks' transactions do not violate the *Shariah*. The *Shariah* governance even becomes more important nowadays because it provides public and customers' confidence regarding *Shariah*-related matters. These aspects can mitigate the risk uniquely in Islamic such as withdrawal risk. All in all, our results support another theory augment from the agency theory, that is, "efficiency wage hypothesis" or "optimal contracting approach".

In this paper, we also find that excess remuneration in executives and CEOs does not impact Islamic banks' risk-taking incentives. Different from the advisory and supervisory roles played by the BOD and SSB, the executives and CEO have a direct role in managing companies' day-to-day activities and possibly have a direct role in the risk-taking policy of Islamic banks. However, it should be noted that financial institutions by nature are different to those non-financial institutions. The banks are considered as one of the most highly regulated institutions and therefore the CEO and managers have limited growth and investment opportunities. The banks also have a distinct leverage profile, which makes them behave very

prudently because of interconnectedness with other banks and other non-financial institutions. The fact that Islamic banks have lots of *Shariah* objectives and requirements could also be the drivers of the minor managerial role of the executives and CEOs of Islamic banks.

Our findings have a great implication for the regulators. The main issue brought from the result of this paper is that the good monitoring activities from the board of directors and *Shariah* board will have a significant impact on reducing risk-taking incentives and therefore promoting the soundness of Islamic banks. The BOD and SSB are an integral part of the Islamic banks' good governance system. Theoretically, there should be more extensive monitoring activities rather than those in the conventional banks because the two layers of governance supervise the CEO and managers in Islamic banks. Therefore, it is plausible that the regulators should provide the well remuneration design especially for board of directors and SSB. In some countries such as Indonesia and Malaysia, the government have taken a specific action on this issue such as regarding the appointment and validation of the *Shariah* board in each Islamic bank.

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Table 1. The description and statistics of variables

Variable	Description	Obs.	Mean	S.D.	Min	Max
LogZ	The log of z-score to proxy bank stability	653	1.539	0.749	0.377	3.281
LogZ_alt	The log of z-score (alternative measure) following Lepetit and Strobel (2013)	653	1.523	0.758	-0.332	3.322
DirRem	Yearly director's remuneration in thousand USD	653	545.420	497.128	60.000	1,559.968
SSBRem	Yearly SSB's remuneration in thousand USD	400	104.331	115.952	8.141	777.169
ExRem	Yearly executive's remuneration in thousand USD	484	1,686.059	1,748.559	131.277	5,383.606
CEORem	Yearly CEO's remuneration in thousand USD	214	526.939	458.287	40.626	2,250.000
ExcessDir	Yearly excess director's remuneration in thousand USD	653	149.643	381.345	-475.641	1,442.510
ExcessSSB	Yearly excess SSB's remuneration in thousand USD	400	20.170	85.926	-222.450	690.261
ExcessEx	Yearly excess executive's remuneration in thousand USD	484	428.296	1,145.182	-2,190.031	4,877.323
ExcessCEO	Yearly excess CEO's remuneration in thousand USD	214	106.838	403.396	-490.651	1,704.102
ROA	Return on assets to proxy bank profitability	653	0.004	0.027	-0.139	0.118
Size	Size of banks proxied by the natural logarithm of total assets	653	14.505	1.855	9.395	17.888
LATA	Liquid assets to total assets to proxy liquidity	653	0.213	0.112	0.051	0.577
CIR	Cost to income ratio to proxy (in)efficiency	653	0.538	0.354	0.154	1.565
INFL	Inflation	653	0.036	0.031	-0.037	0.295
GDPGR	Growth of GDP	653	0.043	0.023	-0.047	0.152

Table 2. Average board remuneration by country (2011-2018)

CountryID	N Banks	N Dir (average)	DirRem (total)	DirRem (/person)	N Ex (average)	ExRem (total)	ExRem (/person)	N SSB (average)	SSBRem (total)	SSBRem (/person)	CEORem (/person)
Bahrain	18	9.13	343.73	40.44	8.84	1,177.27	116.22	3.44	94.51	31.90	157.63
Bangladesh	9	14.68	103.89	7.09	11.36	137.35	16.84	8.09	28.72	3.44	141.87
Egypt	3	9.06	649.00	70.10	12.24	3,270.06	220.04	4.29	.	.	.
Indonesia	11	4.05	329.48	77.10	4.62	1,019.05	204.07	2.38	72.82	30.21	.
Iraq	1	8.30	1,537.75	139.80	5.60	2,725.66	427.67	2.00	.	.	.
Kuwait	11	7.63	365.17	64.39	10.09	825.43	94.27	3.63	50.37	14.27	280.28
Lebanon	1	9.50	410.04	42.07	11.79	5,269.40	424.14	5.00	70.73	23.58	.
Malaysia	19	8.02	757.26	93.73	8.81	1,639.51	205.59	5.45	131.07	24.81	654.77
Maldives	1	6.33	205.07	32.85	5.67	.	.	3.17	27.66	8.88	.
Oman	2	7.46	767.86	97.03	8.95	2,085.65	228.83	3.70	121.64	34.92	179.69
Pakistan	7	7.57	220.23	25.27	9.42	1,306.87	119.58	2.09	55.63	20.13	555.48
Qatar	5	8.79	1,559.97	174.46	13.88	4,154.59	391.45	2.71	266.26	88.75	.
Saudi Arabia	4	10.26	1,170.62	111.80	10.03	5,321.52	694.78	4.37	.	.	113.70
South Africa	1	9.00	514.37	58.25	3.00	465.83	161.31	3.33	.	.	205.76
Turkey	1	8.48	.	.	9.17	934.60	234.68	.	.	.	.
United Arab Emirates	7	20.18	733.69	104.22	6.79	443.53	111.18	3.47	.	.	122.63
United Kingdom	5	7.10	629.64	94.30	2.39	979.62	489.81	3.00	572.66	190.89	.
Yemen	3	8.85	176.43	19.87	9.36	297.97	36.55	3.57	.	.	.
Total	109										
Average		9.12	545.42	71.24	8.58	1,686.06	215.05	4.03	104.33	29.39	526.94

Notes: Please see Table 1 for variable definitions. All remuneration variables (DirRem, ExRem, SSBRem, and CEORem) are in thousand USD.

Table 3. Predicted and excess remuneration value

CountryID	DirRem		SSBRem		ExRem		CEORem	
	Predicted	Excess	Predicted	Excess	Predicted	Excess	Predicted	Excess
Bahrain	254.00	89.73	59.19	35.33	929.54	247.73	130.80	26.83
Bangladesh	112.10	-8.22	21.29	7.43	264.56	-127.21	135.70	6.17
Egypt	576.30	72.71	.	.	3,066.26	203.80	.	.
Indonesia	231.49	97.99	64.18	8.64	822.02	197.03	.	.
Iraq	801.57	736.18	.	.	2,681.62	44.03	.	.
Kuwait	166.34	198.82	31.72	18.65	459.22	366.21	202.02	78.26
Lebanon	391.86	18.18	70.77	-0.04	3,898.79	1,370.62	.	.
Malaysia	592.64	164.63	102.80	28.27	1,076.14	563.37	502.11	152.66
Maldives	202.09	2.98	27.53	0.13	.	.	.	.
Oman	361.76	406.11	118.69	2.95	1,421.61	664.04	177.18	2.51
Pakistan	156.24	63.99	36.85	18.78	874.56	432.31	501.33	54.15
Qatar	801.57	758.40	237.89	28.37	3,624.30	530.29	.	.
Saudi Arabia	801.57	369.06	.	.	3,834.25	1,487.27	111.18	2.52
South Africa	443.14	71.23	.	.	455.97	9.86	205.85	-0.09
Turkey	.	.	.	.	897.01	37.58	.	.
United Arab Emirates	673.24	60.45	.	.	417.50	26.03	122.63	0.01
United Kingdom	489.87	139.77	542.19	30.47	959.83	19.78	.	.
Yemen	165.71	10.72	.	.	264.56	33.41	.	.
Average	395.78	149.64	84.16	20.17	1,257.76	428.30	420.10	106.84

Notes: All values are in thousands of USD. The predicted value is the exponential of the fitted value of the estimation from Equation (1): y = x1 x2. Excess is the difference between the real and predicted value of the remuneration.

Table 4. Baseline result: Excess compensation and bank stability

	Excess =			
	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)
Excess	0.0923***	0.0683**	0.0321	0.0226
	(0.0287)	(0.0299)	(0.0452)	(0.0296)
ROA	0.132***	0.130***	0.177***	0.108***
	(0.0199)	(0.0237)	(0.0233)	(0.0394)
Size	-0.528***	-0.566***	-0.588***	-0.737***
	(0.0688)	(0.0840)	(0.0794)	(0.121)
LATA	0.366**	0.595***	0.371*	0.284
	(0.177)	(0.178)	(0.210)	(0.235)
CIR	-0.0133	0.00816	-0.0300	0.157**
	(0.0232)	(0.0416)	(0.0348)	(0.0606)
INFL	-0.412	-2.069**	-0.649	-2.117
	(0.571)	(1.021)	(0.652)	(1.604)
GDPGR	0.820*	0.473	0.632	2.236**
	(0.474)	(0.655)	(0.467)	(0.915)
Constant	9.061***	9.533***	10.08***	12.25***
	(0.979)	(1.199)	(1.110)	(1.825)
N obs.	653	400	484	214
N banks	109	66	86	34
R-sq.	0.468	0.549	0.522	0.701

Notes: Fixed effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year-fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

Table 5. Robustness: Using other estimations of Excess

	Excess by Uhde				Excess by Dah			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0839***	0.0666**	0.0210	0.00777	0.0812***	0.0515**	0.0351	0.00229
	(0.0236)	(0.0269)	(0.0364)	(0.0250)	(0.0231)	(0.0231)	(0.0224)	(0.0251)
ROA	0.133***	0.131***	0.177***	0.109***	0.0819***	0.126***	0.0968**	0.0286
	(0.0201)	(0.0238)	(0.0236)	(0.0393)	(0.0252)	(0.0462)	(0.0375)	(0.194)
Size	-0.524***	-0.551***	-0.587***	-0.737***	-0.505***	-0.485***	-0.502***	-0.619***
	(0.0687)	(0.0816)	(0.0797)	(0.122)	(0.0842)	(0.123)	(0.0931)	(0.0946)
LATA	0.367**	0.585***	0.377*	0.276	-0.0234	0.211	0.0870	-0.0477
	(0.177)	(0.178)	(0.205)	(0.237)	(0.156)	(0.163)	(0.190)	(0.240)
CIR	-0.0124	0.00695	-0.0299	0.155**	0.0406	0.0285	0.0326	0.297***
	(0.0233)	(0.0415)	(0.0347)	(0.0607)	(0.0410)	(0.0717)	(0.0590)	(0.0910)
INFL	-0.407	-2.014*	-0.671	-2.236	-0.599	-3.597***	-0.623	-2.485**
	(0.561)	(1.014)	(0.638)	(1.647)	(0.558)	(0.980)	(0.748)	(1.182)
GDPGR	0.831*	0.456	0.626	2.255**	1.099**	1.387**	0.731	2.071*
	(0.477)	(0.659)	(0.468)	(0.909)	(0.510)	(0.641)	(0.574)	(1.137)
Constant	9.002***	9.285***	10.08***	12.27***	8.881***	8.552***	8.877***	10.76***
	(0.977)	(1.162)	(1.116)	(1.849)	(1.231)	(1.815)	(1.354)	(1.459)
N obs.	653	400	484	214	446	260	363	162
N banks	109	66	86	34	87	52	77	29
R-sq.	0.469	0.550	0.522	0.700	0.401	0.404	0.393	0.690

Notes: Fixed effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

Table 6. Robustness: LogZ_alt and Lag Excess

	Dependent variable = LogZ_alt				Dependent variable = LogZ			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0620***	0.0461**	0.0351	0.00174				
	(0.0181)	(0.0203)	(0.0214)	(0.0232)				
Lag Excess					0.0485**	0.0371	-0.0259	0.0116
					(0.0243)	(0.0322)	(0.0355)	(0.0247)
ROA	0.00117	-0.00332	-0.00787	-0.160	0.0615***	0.0546**	0.0865**	0.124***
	(0.0168)	(0.0386)	(0.0288)	(0.167)	(0.0175)	(0.0272)	(0.0331)	(0.0445)
Size	-0.469***	-0.395***	-0.450***	-0.564***	-0.459***	-0.474***	-0.493***	-0.712***
	(0.0799)	(0.110)	(0.0844)	(0.0835)	(0.0715)	(0.0851)	(0.0904)	(0.0993)
LATA	0.0438	0.184	0.103	-0.101	0.257*	0.392***	0.185	0.257
	(0.136)	(0.149)	(0.166)	(0.218)	(0.146)	(0.146)	(0.173)	(0.208)
CIR	0.0261	0.0405	0.0220	0.246***	-0.0221	0.0250	-0.0380	0.263***
	(0.0383)	(0.0611)	(0.0512)	(0.0775)	(0.0274)	(0.0427)	(0.0351)	(0.0739)
INFL	-0.575	-2.824***	-0.650	-2.332**	-0.581	-2.622***	-1.180*	-2.614**
	(0.516)	(0.849)	(0.715)	(1.060)	(0.506)	(0.926)	(0.671)	(1.156)
GDPGR	0.885*	0.871	0.563	2.378**	0.899	0.118	0.960	1.854
	(0.508)	(0.640)	(0.589)	(1.031)	(0.606)	(0.719)	(0.710)	(1.101)
Constant	8.340***	7.232***	8.104***	9.926***	8.147***	8.369***	8.788***	12.04***
	(1.169)	(1.614)	(1.219)	(1.284)	(1.015)	(1.217)	(1.300)	(1.488)
N obs.	451	264	369	162	565	346	420	182
N banks	87	52	77	29	106	65	84	32
R-sq	0.414	0.400	0.391	0.733	0.368	0.422	0.396	0.709

Notes: Fixed effects regressions. Please see Table 1 for variable explanations. All regressions use year fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

Table 7. Robustness: Random-effects estimation and the real value of remunerations

	Random effects regression				Real value			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0797***	0.0618**	0.0184	0.0308				
	(0.0261)	(0.0303)	(0.0445)	(0.0305)				
Rem					0.0800***	0.0622**	0.0281	0.00950
					(0.0223)	(0.0248)	(0.0324)	(0.0220)
ROA	0.117***	0.108***	0.152***	0.114*	0.133***	0.132***	0.177***	0.109***
	(0.0203)	(0.0227)	(0.0286)	(0.0651)	(0.0206)	(0.0235)	(0.0235)	(0.0393)
Size	-0.336***	-0.379***	-0.324***	-0.300***	-0.541***	-0.572***	-0.592***	-0.738***
	(0.0440)	(0.0488)	(0.0579)	(0.0752)	(0.0697)	(0.0841)	(0.0799)	(0.121)
LATA	0.540**	0.737***	0.604**	0.726**	0.369**	0.594***	0.373*	0.281
	(0.219)	(0.214)	(0.281)	(0.366)	(0.177)	(0.178)	(0.205)	(0.241)
CIR	0.00744	0.0365	0.00161	0.299***	-0.0130	0.00857	-0.0298	0.156**
	(0.0258)	(0.0432)	(0.0434)	(0.0920)	(0.0234)	(0.0421)	(0.0346)	(0.0606)
INFL	-0.710	-2.517***	-0.843	1.117	-0.454	-2.016*	-0.652	-2.185
	(0.585)	(0.972)	(0.763)	(1.669)	(0.568)	(1.010)	(0.645)	(1.644)
GDPGR	0.185	-0.537	0.212	-0.402	0.861*	0.462	0.627	2.258**
	(0.516)	(0.695)	(0.571)	(2.080)	(0.480)	(0.654)	(0.468)	(0.917)
Constant	6.373***	6.931***	6.341***	5.855***	8.793***	9.330***	9.975***	12.22***
	(0.648)	(0.702)	(0.844)	(1.105)	(0.969)	(1.169)	(1.107)	(1.837)
N obs.	653	400	484	214	653	400	484	214
N banks	109	66	86	34	109	66	86	34
R-sq.	0.437	0.519	0.469	0.595	0.470	0.553	0.523	0.700

Notes: Please see Table 1 for variable explanations. All regressions use year fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

Authors' response

Excess remuneration, governance, and risk-taking in islamic banks

International Journal of Finance and Economics (IJFE-23-0953)

Reviewer #1 (Recommendation Major Revision)

The manuscript is a good effort on the subject however, it could further improved by incorporating the following submissions.

1. The section-wise distribution need to be aligned with the standards described in author guidance's of IJFE, there is a need to have a separate literature review section and hypothesis of the study must designed.
   → Thank you for the comment. The revised manuscript is already aligned with the IJFE standard with literature review and hypothesis development in section 2.

2. The theoretical concepts/foundations discussed in the manuscript do not unified with results and it's seem that they are just showcased.
   → Thank you for your comment. We have revised the manuscript and our finding has been backed up by theory that we provide in the section 2.

3. Appropriate methodology applied however, as equation 2 express country fixed effects were not given in the results tables. The variable ECO remuneration was consistently found insignificant requires justification.
   → Thank you for your comments. In our revised manuscript, we have included country fixed effects in all estimations. Regarding the CEO, in the explanation of the finding in Table 4 of our revised version, we argue that the remuneration for CEO of Islamic banks does not give significant impact for stability because the Islamic banks: (1) operate in highly regulated banking environment, (2) should comply to the *Shariah* that in some extent they have fewer opportunities than their conventional peers, and (3) collectivism value in Islamic banks. Our argument is supported by Bai and Elyasiani (2013), (Hassan et al., 2019), Houston and James (1995), Ayadi in Barth et al. (2012), Bitar et al. (2017), and (Jarque and Prescott, 2020).

4. Finally, the discussion and conclusion are presented reasonably however, they could be better if more in-depth discussions are in place in relation to literature contributions and policy implications keeping in view the applied theories.
   → Thank you for your suggestion. In the revised version, we highlight this issue in the conclusion. The discussion related to the literature contribution is in paragraph 1 of the conclusion while the policy implications is in paragraph 3. Please kindly check.

Reviewer #2 (Recommendation Major Revision)

The manuscript investigates the impact of remuneration on the governance and risk-taking behavior in Islamic banks. Utilizing a comprehensive dataset and robust methodology, the paper addresses a relevant topic in the field of finance, especially within the context of the growing Islamic banking sector. However, several areas need improvement to enhance clarity, robustness, and the overall contribution of the paper.

1. Introduction and Literature Review: These sections are well-grounded in the literature but could be more concise. Consider restructuring these sections to improve readability and ensure that the primary research question stands out more clearly.
   → Thank you for your comment and suggestion. In our revised paper, the introduction has been reduced and the literature review and hypothesis development have also been added. By this way, the research question and how it links with literature in the hypothesis development will stand out more clearly.

2. Clearly articulate the research gap and the primary research question. Highlight the unique contributions of the study early on.
   → Thank you for your comment. We have restructured the introduction. The primary research question is provided in the fifth paragraph of the introduction, followed by the contribution and research gap in the sixth, seventh, and eighth paragraphs.

3. Literature Review: While comprehensive, this section could be condensed to focus more directly on the most relevant studies and theories.
   → Thank you. Our revised version contains literature review with the most updated and relevant study.

4. Abstract: The abstract should provide a clearer summary of the key findings and their implications. Ensure that it highlights the main contributions of the study.
   → Thank you for your suggestion. The abstract has been slightly restructured. In the abstract, we highlight three main findings: (1) all board types including the CEO are over remunerated; (2) the high remuneration in the directors and SSB favors the Islamic banks' stability (efficiency wage hypothesis); (3) the high remuneration is not significant for executive and the CEO. We also highlight the implication: "Our result suggests that the good design of remuneration for the directors and *Shariah* scholars will attenuate the agency problems in the context of Islamic banks." The main contributions is also written in the abstract: "The research in this area are still muted, especially using sample of Islamic banks and involving all board member types"

5. Explanation of Findings: While the results are compelling, the discussion section should more explicitly link the findings back to the hypotheses and theoretical framework. Provide a deeper analysis of the implications of the results.
   → Thank you. We have linked the finding with the hypothesis and theory, as can be seen in the third section, for example:

"… In this case, our result relevant to the "efficiency wage hypothesis" and "optimal contracting approach" theories emanating from the agency theory, especially for directors and SSB as part of the leader of the Islamic banks (Adams and Ferreira, 2008; Bebchuk and Fried, 2003; Unda and Ranasinghe, 2019)."

6. Include more detailed tables that break down the results by different variables and provide a more granular analysis.
   → Thank you for your suggestion. In the revised version, we include the estimation results with different variables and measurements of excess and lag value of excess as independent variables (Table 6 and 7), another proxy of z-score as dependent variables (Table 7), and the real value of remuneration (Table 9). We also provide a more granural analysis, by splitting the sample based on the large- and medium-sized banks and provide the result in Table 5.

7. Strengthen the discussion of the theoretical implications. Relate the findings to existing theories and discuss how they advance the current understanding of remuneration and governance in Islamic banks.
   → Thank you. We have linked our result with the theory, as our result support the theory of "optimal contracting approach". Please see section 4.2.

8. Implications for Practice: Discuss the practical implications of the findings in more detail, particularly how the remuneration policies can be designed to mitigate risk-taking in Islamic banks.
   → In the conclusion section, we write that "… the regulators should provide the well remuneration design especially for board of directors and SSB", based on our finding that if they are paid well, the risk taking will be lower and the stability of the banking system will be higher (efficiency wage hypothesis). The board of directors and the SSB are in the supervisory (non-executive) part of the Islamic governance system. The well design of remuneration (e.g., relevant to the banks' size: larger banks larger remuneration they will obtain) will make them perform well monitoring to the bank that can ultimately enhance bank stability.

9. Methodology: Provide more details on the dataset, including the sources and the rationale for the selected period (2011-2018). Ensure the methodological approach is described in a way that allows for replication.
   → Thank you for your suggestion. We have updated the dataset until 2019 to isolate the effects of the economic crisis caused by the COVID-19 pandemic. We have also added the following footnote:
   "This approach aligns with previous researchers, such as Mueller and Sfrappini (2022) who ended their sample in 2019 to avoid the impact of COVID-19 on regulatory risk and bank lending; Essers and Ide (2019) who created a sub-sample of programs related to the IMF to avoid the confounding effects of crises; and Tekin and Polat (2020) who excluded period of the Dot-com bubble in the United States during 1995–2001."

10. Expand the robustness checks by including additional alternative measures. This would strengthen the validity of the findings.
    → Thank you for your suggestions. We have provided four Tables of robustness containing the estimations using: (1) Excess by Uhde (2016); (2) Excess by Dah and Frye (2017); (3) Lag Excess; (4) alternative measure of the Z-Score; and (5) real value of remuneration.

11. Address potential endogeneity issues more comprehensively. This could involve using instrumental variables or other econometric techniques to ensure the robustness of the results.
    → Thank you. In the revised version, we also tackle the endogeneity problem by using the generalized method of moments (GMM) technique.

12. Language: The manuscript would benefit from a thorough review for language and grammatical errors. Clear and precise language will improve the overall readability of the paper.
    → Thank you. The paper has been checked by the Grammarly. Please see the Grammarly report.

13. Figures and Tables: Ensure all figures and tables are clearly labeled and referenced appropriately in the text. This will aid in the comprehension of the presented data.
    → Thank you. All tables have been cited in the text.

The paper addresses a timely and important topic with significant implications for the governance of Islamic banks. With major revisions to enhance clarity, robustness, and discussion, this manuscript has the potential to make a valuable contribution to the literature. I encourage the authors to address the comments and suggestions provided to improve the quality and impact of the paper.

→ Thank you for your suggestion. The paper has been revised based on the suggestions from the two reviewers.

Excess remuneration, governance, and risk-taking in Islamic banks

Abstract

We comprehensively investigate the impact of remuneration of Islamic banks governance pertaining with the board of directors (BOD), *Shariah* supervisory board (SSB), executives, and the chief executive officer (CEO). The research in this area are still muted, especially using sample of Islamic banks and involving all board member types. Using the hand-collected data of dollar remuneration on those board members, we estimate their "normal" remuneration, and we find that all board types including the CEO are over-remunerated from USD ~~84,160~~112,810 to 497,440~~1,257,760~~. However, in further investigation, we find that the excess remuneration in the directors and SSB favors the Islamic banks particularly to lessen the risk-taking incentive. Our result highlights the importance of Islamic banks' two-layer governance system that has a role in preventing excessive risk-taking behavior. ~~This is relevant with the theory of~~Supporting "efficiency wage hypothesis", ~~and "optimal contracting approach" emanated in the agency theory literature. Our result suggests that~~ the good design of remuneration for the directors and *Shariah* scholars will attenuate the agency problems in the context of Islamic banks. Regarding executives and the CEO, we do not find a significant impact of the excess remuneration. This is possibly because the Islamic banking industry faces a number of restrictions due to their presence as a heavy-regulated financial institution and voluminous *Shariah* requirements that have to be fulfilled in their operations.

Keywords: risk-taking, governance, excess compensation, excess remuneration, Islamic banks

JEL Classification: G21, G28, J33, Z12

"*We get high salaries because we deserve them. If you pay peanuts, you get monkeys*."
—A CEO of a bank in Pakistan[1]

"*Does Disney CEO Bob Iger have a good explanation for why he is being compensated more than $400 million while workers at Disneyland are homeless and relying on food stamps to feed their families?"*
—Bernie Sanders[2]

1. Introduction

The remuneration or compensation of the company executives and directors will always be a hot topic to discuss. The statistics and report show that their total pay, especially the executives, is unrealistic and could be hundreds of times of average workers. For instance, Economic Policy Institute (2019) has revealed that the annual compensation of the CEO has grown 940% since 1978, and it is 278 times than their employees. Business Insider (2016) shows that the executives of the BBC even earn more than double than the UK Prime Minister. For senior executives, the recession is even only a history because they consistently receive a significant increase in their salary despite the downward employment rate (The Guardian, 2019). This condition creates many critics from the employees and even the policymakers.

One may argue that it is reasonable if the CEO receives multiple times of the employee's salary because they sit at the helm of the profit organization with billion dollars assets and they could be sacked at any time when the firm performance is poor (Alam, 2014). Chamorro-Premuzic (2016) asserts that C-suite leaders can be expected to influence the majority and organization and it differs to midlevel managers that only influence their team. In addition, Chamorro-Premuzic (2016) highlights that the CEO's pay differs from other employees because the personality and charisma of the CEO can shape the whole culture of the organization. Moreover, the CEO's judgment can affect the key managerial and strategic decision in the firm and their reputation or social capital can also affect the firm's stock price and valuation (Chamorro-Premuzic, 2016).

This paper extends the debate on the executives' pay especially in the banking environment. Compared to other industries, banks and other financial services are heavily regulated. Financial institutions are more prone to troubles by nature. Their interconnectedness with other banks and firms will significantly impact the whole economy, especially if they face financial distress (Casu *et al.*, 2015). Therefore, the wrong design of the executive remuneration (e.g., excessive remuneration) could be the major driver of excessive risk-taking, becoming an additional cause of the financial crisis (Bebchuk and Fried, 2003). However, one may also argue that because financial institutions have limited growth options, extensively higher leverage, and are insured by the depository institutions (Bai and Elyasiani, 2013), their compensation scheme for executives and CEOs will lower impact on bank risk. The latter argument is supported by some empirical studies such as Houston and James (1995). Ayadi in

[1] https://tribune.com.pk/story/672546/takeaway-the-curious-case-of-a-bank-ceos-salary
[2] https://www.forbes.com/sites/rainerzitelmann/2019/10/07/why-do-so-many-people-think-that-ceos-earn-too-much/?sh=2d11af03152e

Barth et al. (2012) also finds that the structure of compensation in the banking industry does not promote risk-taking.

This paper focuses on Islamic banking as a particular type of bank using *Shariah* or Islamic law in their operations that have had substantial growth in the banking market recently. According to IFSB (2020), Islamic banks currently hold more than 70% of the Islamic financial services industry. Islamic banks have reported yearly growth of 12.75% and have an asset worth of USD 1,765.8 trillion as of 2019 (IFSB, 2020). Because of its significant development, the payment of their directors and executives also receives attention recently. For instance, the CEO of Meezan Bank is the second-highest-paid banker in Pakistan, and he receives Rs. 215 million or approximately USD 2,8 million in 2019 (Pakistani Journal, 2020)[3]. For comparison, this amount is considerably high because it is less than half of BNP Paribas CEO, who is categorized as the top 20 highest paid banking CEO in the world (Financial Times, 2017).

Our primary question in this paper is whether board remuneration could promote risk-taking in Islamic banks. This is an important issue to be investigated because Islamic banks in general possess a different risk profile than conventional ones. Although some studies suggest that they are less vulnerable during the financial crisis (Abedifar *et al.*, 2013; Beck *et al.*, 2013), Islamic banks have several limitations such as the difficulties of seeking funds from the money market when they face liquidity problems (Hassan *et al.*, 2019). Moreover, because Islamic banks operate based on profit and loss sharing principles and most Islamic banks operate in the dual banking markets, they are also subject to some particular risks such as *displaced commercial risk* that can increase withdrawal risk. The profit and loss sharing mechanism in Islamic banks implies that the return/profit that they will share with the depositors (on the liability side) will depend on the return/profit they receive from the entrepreneur/borrower (on the assets side). In other words, the higher return they obtain from the borrower, the higher money they give to the depositors. A problem then occurs when Islamic banks do not obtain an adequate return from the borrower, but on the other hand, they have to maintain return payment to the depositors. In the modern Islamic finance concept, this is called *displaced commercial risk*. If this risk is not well managed, withdrawal risk will also occur. It is a risk of losing deposits to competition from other Islamic or conventional banks when actual rates of return are lower than expectations or the prevailing rates of return offered by competitors.[4].

The contribution of this paper is threefold. First, despite the abundance of empirical papers investigate Islamic banks' stability, to the best of our knowledge, interestingly there are few studies that specifically analyze the effect of remuneration on the stability and risk-taking of Islamic banks.

Since Islamic banks' risk profile substantially differs from those conventional peers, the whole design of the remuneration and its impact on bank risk should also not be the same. Recent studies have focused on Islamic banks' stability, soundness, and risk-taking (Abedifar *et al.*, 2013; Beck *et al.*, 2013). Some of them focus on the determinant of stability, such as

[3] Meezan Bank is Pakistan's first and largest Islamic bank that offers a range of Shariah-compliant products.
[4] See, e.g., (Daher *et al.*, 2015) and (van Greuning and Iqbal, 2008) for more details.

size (Ibrahim and Rizvi, 2017), competition (Risfandy *et al.*, 2022), lending behavior (Ibrahim and Rizvi, 2018), political risk (Al-Shboul *et al.*, 2020), and some other issues[5].

~~However, to the best of our knowledge, we find no studies empirically examine the role of bank remuneration on Islamic banks' stability. Specifically~~Second, this paper ~~we~~ contributes to the literature stream by not only focusing on the CEO but also for other ~~remuneration of all~~ board types/highest layer/leaders in Islamic banks, including executives and directors~~: board of directors, executive board, Shariah supervisory board, and the CEO~~. Recent studies in the conventional banks' sample look into remuneration issues only for bank executives and CEO[6]. Bai and Elyasiani (2013) employ CEO compensation sensitivity to risk, or *vega*, and find that higher *vega* is associated with lower bank stability. In a similar vein, Gande and Kalpathy (2017) observe that the amount of emergency loans and total loan days outstanding increases in the pre-crisis *vega*, suggesting that equity incentives in CEO compensation contracts are positively related to risk-taking in financial firms. Jiang et al. (2019) provide evidence on the relation between deferred cash compensation and risk-taking by analyzing a sample of 156 bank executives from 14 listed Chinese banks. Shah et al. (2017) find a negative relationship between CEO compensation and bank risk-taking both in the pre- and post-crisis period. Tian and Yang (2014) find that although CEO pay has dropped during the financial crisis, bank CEOs are still paid much better than their firms and shareholders. Using the simulation approach, Francis et al. (2015) find that regulatory changes can result in a change in the composition of managerial compensation, which creates an environment of incentives for enhanced risk-taking. Uhde (2016) provide empirical evidence for a risk-increasing impact of excess compensation of their executives from an analysis of 63 banks in 16 countries in Europe.

Third, o~~O~~ur paper's focus is not solely on the remuneration of CEO and executives that often receive critics both from the media and academic literature, we ~~. We~~ also focus on the remuneration of ~~Shariah supervisory board (SSB),~~SSB ~~-~~which became the second layer of governance system in Islamic banks. Empirical studies about their role in the Islamic banks' governance is indeed well documented (Meslier *et al.*, 2020; Mollah *et al.*, 2016; Mollah and Zaman, 2015; Safiullah and Shamsuddin, 2018), but their position as the part of the board that received remuneration receives lack empirical investigation. It might be not surprising if the executives and CEO received hundreds of thousands of dollars per year because of their position. In the case of SSB, because the number of Islamic scholars is minimal (the supply), the SSB position is actually in great demand and should also receive vital attention.[7]. Plenty of Islamic scholars serves on more than one SSB and the high-profile SSB members could sit on 50-70 banks (Abdul-Rahman, 2010). A scholar in Islamic banks could charge the bank up to USD 88,500 per bank per year and the amount could reach USD 500,000 for the consultation of large transactions of capital markets (Khan and Bhatti, 2008; Oseni *et al.*, 2016).

[5] For brevity, we do not provide a list of all prior studies on the issue of stability and risk-taking.

[6] In Islamic banks, the board of directors and *Shariah* supervisory board is an integral part of governance. Each board type provides one layer of governance to increase the effectiveness of Islamic banks' operational activities, which substantially differs from those of conventional peers. ~~For this reason.~~

[7] Indeed, there are a large number of Islamic scholars. However, the reputable Islamic scholars that are publicly well-known and bring confidence to the Islamic banks' customers are very limited.

~~Concerning the compensation-risk taking nexus of the boards, two theories emanated from the literature. The first is the agency theory that highlights the problem of managerial power and discretion (Jensen and Meckling, 1976). Using their power, the managers could build their own empire and engage in any activities that do not align with the ultimate purpose of financial management: to increase shareholder wealth. The "optimal contracting approach" for their managers is predictably can provide managers with efficient incentives to maximize shareholder value (Bebchuk and Fried, 2003). Some other researchers note this as the "efficiency wage hypothesis" (Adams and Ferreira, 2008; Unda and Ranasinghe, 2019). Under this theory, it is hypothesized that the good design of compensation in the firm will positively impact bank soundness. The boards are more likely to work better if they are paid more (Unda and Ranasinghe, 2019) and even for a small difference in financial rewards (Adams and Ferreira, 2008).~~

~~However, it is also argued that under the "managerial power approach" or "moral hazard hypothesis," executive compensation is not only a potential instrument for addressing agency problem but also part of agency problem itself (Bebchuk and Fried, 2003). By having a high compensation level, the executives could engage in excessive risk-taking to fulfill their targets and satisfy shareholder expectations. In the case of a financial institution, this problem could be more severe because of the recent global financial crisis caused by the increased risk-taking and pay motives of top executives of major banks (Ntim et al., 2013; Shah et al., 2017). It has also been largely discussed in the literature that risk-taking incentives in the bank are more pronounced than in the non-financial firm. Because the financial institution is highly leveraged, the manager and executives can shift risk to the dispersed debtholders (Uhde, 2016). This mechanism is even more relevant in the presence of deposit insurance corporations when the managers could take the excessive risk by expecting government bail-out to the depositors. In this regard, the risk may additionally be shifted to the regulators and taxpayers. In other words, the agency conflict that stems from excessive executive compensation could harm the stability of the financial market as a whole.~~

The remainder of this paper is as follows. Section two provides the ~~background theory on the relationship between compensation and bank risk-taking~~literature and hypothesis. Section three highlights the methodology and econometrics approach to answer our research question. Section four provides the empirical result. Section five concludes.

2. Literature review and hypothesis development

2.1. Remuneration and wage in Islam

Islam does not specify regulate how much wage (the upper and lower limit) should be earned by a Muslim because the wealth is not a measure of Muslim success. In *Shariah*, the main determination of wage and remuneration is usually using the principles of justice, equality, and fairness. The Islamic scholars have proposed various factors that influence wage determination such as "justice", "equality", "market based", "skill", "performance", "basic needs" and others but therefore fail to conclude which factors are most important (Yasmeen, 2023) ~~(Yasmeen 2023).~~ Therefore, it is argued that although the determinants of "normal" wage is inconclusive, the main point to be highlighted is not how much wage should he/she earns, but for what the wage give benefit to. In *Shariah* concept, the wage/remuneration should be applied in such a way that it is enough and can satisfy and benefit his/her core member of the

family (Ahmad, 2011) ~~(Ahmad 2011)~~. This could be the minimum definition of a wage/salary/money/remuneration that people should have. At least, the wage should be able to feed his family, because if it is not, the Muslim will be considered as "poor" (*fakir*/*miskin*).

While there is no single consensus about wage or remuneration in Islam, in another perspective, Islam promote entrepreneurship. ~~(~~Gümüsay~~,~~ (2015) ~~Gumusay 2015~~ highlights that entrepreneurship in Islam based on three interlinked pillars: (1) pursuit of opportunities, (2) socio-economic and ethical, and (3) religio-spiritual and links people to God. The first and second pillars is somewhat already embedded in the common definition of "good" entrepreneurship: looking for profit but still considering ethical values. The third pillar is more on the *halal* concept, viewing entrepreneurship as a human being activity as part of worshipping the God[8]. Moreover, Islam also encourage profit maximization. ~~(~~Ali *et al.*~~,~~ (2013)~~Ali et al (2013)~~ point that profit maximization is legitimate in Islam because it is an integral part of business considerations, but it should not be the only goal of conducting business because business activity should be conducted ethically. Ali *et al.* (2013) ~~Ali et al (2013)~~ also point that in Islam, earnings and profits is approved as long as do not lead to exploitation and harm the community, because the outcome of Islamic economics is prosperity and welfare of the society.

2.2. Islamic banks' principle

In general, people views that Islamic banks operate based on *Shariah* (Islamic law) that comes from the Quran and the hadith. This is true but to more specific, the concept and application of Islamic banks is stemmed from *fiqh al-muamalat* (Islamic jurisprudence for transaction). This is part of the *Shariah* that regulate how each Muslim interact with others in non-worship activities particularly social and economic activities. The other part called *fiqh al-ibadat* (Islamic jurisprudence for worship), that regulate how Muslim should pray and how a person should maintain relationship with the God.

It is interesting to see that the existence of Islamic banks is a product of the *Shariah* and *fiqh al-muamalat* but Islamic banks—although have promising growth in the last decades—cannot replace the existing conventional banks. The Muslim see Islamic banks and its products as an alternative and not to replace conventional banks products that have been used by them for a long time. People see that the prohibition of *riba* that stemmed from the *Shariah* is not necessarily similar to the prohibition of the conventional banks because conventional banks' interest is not necessarily similar to *riba* (Harahap and Risfandy, 2022). ~~(Harahap and Risfandy 2022).~~ The debate about this issue is never end and therefore it leaves to each person which arguments that he/she believes.

In essence, Islamic banks not only have spirit to disallow conventional banks' interest but also bring "trade" and "equity financing" as replacement[9]. The trade mechanism in Islamic banks is successfully applied and have become prominent contract between the client and the banks. On average, Islamic banks allocate more than half portion of their lending by using trade mechanism (Meslier *et al.*, 2020). This instrument is so far accepted by the market for both

[8] Gümüsay (2015) highlights that in Islam, when people work, they see work as a religious duty, a form of "wor(k)ship" to seek God's bounty.

[9] The term "trade" refers to *Murabaha* contract, while "equity financing" refers to *mudaraba* and *musharaka* contracts. Please see **Meslier 2020 and Silvia et al 2024** for details.

Islamic banks and their clients, especially in the environment characterized with high market imperfection and high asymmetric information, because it can be used for mimicking conventional banks' interest. Since Islamic banks operates side-by-side with the conventional ones in the same market, the mimicking mechanism is often used by Islamic banks to make them competitive in the market (Risfandy *et al.*, 2022)~~.(Risfandy 2022).~~

However, as the trade contract gains its popularity, the equity-based contract financing, that contain the main spirit of Islamic banks because it promotes profit and loss sharing mechanism, are often neglected. The percentage of equity-based lending is tiny and even missing in many banks across countries (Meslier *et al.*, 2020; Silvia *et al.*, 2024)~~. (Silvia et al 2024; Meslier et al 2020).~~ The banks and the clients are often avoiding this type of financing because it is complicated (Abedifar *et al.*, 2013), very risky and could harm Islamic banks financial stability ~~(Hamza and Saadaoui 2013)~~(Hamza and Saadaoui, 2013), and lack of government support and regulatory harmonization (Kammer *et al.*, 2015)~~.(Kammer et al. 2015).~~

2.3. Governance structure of Islamic banks

~~Bagian ini tolong diisikan tentang governance structure di bank syariah (two-layer system) yang terdiri dari SSB dan BOD. Mbak inas bisa baca papernya Mollah and Zaman (2015), Mollah et al 2016, dan Meslier 2020 dan merangkai ceritanya dari situ, kemudian di-expand ke literatur lain yg ada disini maupun yg terbaru. Bagian ini ditulis kira2 500-600 kata.~~Islamic banking has its unique characteristics in terms of business activities and governance. Typically, it features two layers of governance system: the "s~~S~~tandard" b~~B~~oard and the *Shariah* supervisory b~~B~~oard/SSB (Ibrahim and Law, 2020). The s~~S~~tandard b~~B~~oard leads banking institutions in matters related to management effectiveness while~~. Meanwhile,~~ the *Shariah* b~~B~~oard ensures that banking operations and products comply with Islamic principles (Mollah *et al.*, 2016).

Within the s~~S~~tandard b~~B~~oard, the leadership consists of the b~~B~~oard of d~~D~~irectors (BOD), the e~~E~~xecutive, and the c~~C~~hief e~~E~~xecutive o~~O~~fficer (CEO). As ~~with~~in other institutions, the main roles of the BOD are to monitor and supervise the ~~corporate~~ management (Fama and Jensen, 1983), to manage conflicts of interest among stakeholders (Ajili and Bouri, 2018), and to oversee the institution~~'~~'s performance (Dalwai *et al.*, 2015). In fulfilling its duties, the BOD is assisted by the CEO and executive members. ~~The~~Sometimes, the CEO ~~often~~ holds CEO duality, serving as both the general manager and the chairman of the board (Bank Negara Malaysia, 2015)~~. Meanwhile, executives in Islamic banking typically fall under the *Sharia* department.~~

The ~~Shariah Board~~SSB operates under two governance models: the decentralized model and the centralized model. In Islamic banks that follow the decentralized model, each bank has its own independent ~~Shariah board~~SSB, with the authority to decide which products to offer (Alam, Miah, *et al.*, 2020; Hamza, 2013). In contrast, in the centralized model, the ~~Shariah Board~~SSB, which is part of the c~~C~~entral b~~B~~ank, regulates the compliance of Islamic banking products and activities within a country (Hamza, 2013). Most of countries adopts decentralized model, except some countries such as Turkey and Sudan that prefer centralized model.~~Countries such as Saudi Arabia and Bangladesh have adopted the decentralized model~~

~~(Hassan *et al.*, 2017), while Malaysia, Pakistan, and Sudan follow the centralized model (Hamza, 2013).~~

The decentralized~~Shariah Supervisory Board (SSB)~~ operates at a level parallel to the BOD but with distinct characteristics. SSB members specialize in Islamic commercial jurisprudence and should have expertise in Islamic financial institutions (AAOIFI, 2004). This specialization helps facilitate their task of ensuring *Shariah* compliance and allows members to easily share their knowledge with each other. Although both the SSB and BOD are involved in strategic planning, the SSB's focus is on current and past events, while the BOD concentrates on future strategy (AAOIFI, 2004).

Prior empirical studies have been concerned with agency theory in Islamic banks. *Sharia* governance in Islamic banking requires collaboration between the SSB and the BOD, especially regarding *Shariah*-related issues (Khalil, 2021). However, the difference in formal training backgrounds in *Shariah* law between the directors and the SSB can create conflicts of interest (Alam, Ramachandran, *et al.*, 2020; Nathan Garas, 2012). On the other hand, integrating the roles of the BOD and SSB is crucial for controlling risk-taking (Ramly and Nordin, 2018). The SSB, with its expertise and authority, can cancel any investment or product that does not comply *Shariah* law (Meslier *et al.*, 2020) and offer advice to the BOD, even if it may reduce potential benefits for the bank (Ullah *et al.*, 2018).

2.4. Efficiency wage vs. moral hazard hypothesis

Concerning the compensation-risk taking nexus of the boards, two theories emanated from the literature. The first is the agency theory that highlights the problem of managerial power and discretion (Jensen and Meckling, 1976). Using their power, the managers could build their own empire and engage in any activities that do not align with the ultimate purpose of financial management: to increase shareholder wealth. The “optimal contracting approach” for their managers is predictably can provide managers with efficient incentives to maximize shareholder value (Bebchuk and Fried, 2003). Some other researchers note this as the "efficiency wage hypothesis" (Adams and Ferreira, 2008; Unda and Ranasinghe, 2019). Under this theory, it is hypothesized that the good design of compensation in the firm will positively impact bank soundness. The boards are more likely to work better if they are paid more (Unda and Ranasinghe, 2019) and even for a small difference in financial rewards (Adams and Ferreira, 2008).

However, it is also argued that under the "managerial power approach" or "moral hazard hypothesis," executive compensation is not only a potential instrument for addressing agency problem but also part of agency problem itself (Bebchuk and Fried, 2003). By having a high compensation level, the executives could engage in excessive risk-taking to fulfill their targets and satisfy shareholder expectations. In the case of a financial institution, this problem could be more severe because of the recent global financial crisis caused by the increased risk-taking and pay motives of top executives of major banks (Ntim *et al.*, 2013; Shah *et al.*, 2017). It has also been largely discussed in the literature that risk-taking incentives in the bank are more pronounced than in the non-financial firm. Because the financial institution is highly leveraged, the manager and executives can shift risk to the dispersed debtholders (Uhde, 2016). This mechanism is even more relevant in the presence of deposit insurance corporations when the managers could take the excessive risk by expecting government bail-out to the depositors. In

this regard, the risk may additionally be shifted to the regulators and taxpayers. In other words, the agency conflict that stems from excessive executive compensation could harm the stability of the financial market as a whole.

2.5. Hypothesis development

Different to the conventional banks' spirit that primarily focus on maximizing shareholder values and providing financial intermediation for personal and companies, Islamic banks have *Shariah* obligation that have to be applied in their system and practice. The application of the *Shariah* is not just the prohibition of the *riba* (usury/interest) but also the motivation for profit-and-loss sharing principle (Meslier *et al.*, 2020), the existing of *Shariah* board in the Islamic banks (Mollah and Zaman, 2015), and also how the remuneration should be applied in Islamic banks. In *Shariah* concept, the wage/remuneration should be applied in such a way that it is enough and can satisfy his/her core member of the family (Ahmad, 2011)~~(Ahmad 2011). The~~ over-remuneration, conceptually, is not prohibited in *Shariah*, as Islam also do not limit people for being rich. Moreover, Islam motivate people for seeking money, in order to be able to pay *zakat*, besides fulfilling the family needs.

In the "efficiency wage hypothesis", the good remuneration for the firm leader could benefit firm performance and firm stability (Adams and Ferreira, 2008; Unda and Ranasinghe, 2019). When we link this with the *Shariah* concept that permit people to have more money, the more money they will have, the more efficient they will work and the faster they can fulfill their responsibility (Elnahass *et al.*, 2020). Moreover, the concept of two-layer governance system in Islamic banks theoretically will restrain Islamic banks leader to have excessive risk taking because they are double-monitored by the BOD and SSB: performance- and *Shariah*-related issues (Mollah and Zaman, 2015). Therefore, even when Islamic banks' directors and executives are paid more, they are less likely to take excessive risk because they are highly monitored by the SSB. In this regard, the "moral hazard hypothesis" is also less likely to happen. Moreover, the role of SSB is also improved recently, not only paying attention on the *Shariah* issues but also on the banks performance (Elnahass *et al.*, 2020; Farag *et al.*, 2017; Mollah and Zaman, 2015). Without doubt, the markets (and also the banks' stakeholders including depositors) will have positive view on Islamic banks that have reputable SSB members in their structure. Islamic banks will be at higher risk if they are monitored by "unqualified" Islamic scholars sit in the SSB because the SSB (and its members) has authority to issue *fatwa* regarding whether the bank products is halal or not (Ginena and Hamid, 2015; Quttainah *et al.*, 2013). Based on this matter, in this paper, we hypothesize the following "efficiency wage hypothesis":

H_1. Islamic banks with higher leaders' remuneration are associated with lower risk taking.

~~2.~~3. Methodology

~~2.1.~~3.1. Sample selection

We collect the data of directors', SSB's, executives and CEO's remuneration/compensation from the annual report of all Islamic banks operating in the dual banking market worldwide. Our data is limited to the banks that: (1) publicly report the

remuneration data in their annual report, and (2) have a match data with other datasets we retrieve from BvD BankFocus and WorldBank. We convert all remuneration data to a dollar value (USD) to better compare across countries. The period of this study is from 2011 to 2019. We restricted our sample to 2019 to isolate the effects of the economic crisis caused by the COVID-19 pandemic.[10] Finally, our final datasets comprise 720 observations of 104 Islamic banks in 17 countries.

~~2.2.~~3.2. Dependent variable: The z-score

For the dependent variable, we use a z-score as a widely used measure of risk-taking in both Islamic and conventional banks. The z-score is prevalent in the empirical banking literature because the calculation is simple and can be constructed using only accounting information. The z-score has various approaches (see, e.g., Boyd et al. (2006), Yeyati and Micco (2007), Cihák and Hesse (2007)) and in this paper we follow the most widely used the z-score (Beck *et al.*, 2013; Cihák and Hesse, 2007; Fiordelisi and Mare, 2014; Fu *et al.*, 2014; Laeven and Levine, 2009; Risfandy *et al.*, 2022) with the formula written in following the equation (1).

$$Z_{it} = \frac{ROA_{it} + EQTA_{it}}{\sigma ROA} \quad \dots \quad (1)$$

The ROA is return on assets and the EQTA corresponds to the capital-asset-ratio. The z-score technically shows the number of standard deviations that bank return has to fall below its expected value to deplete equity and make the bank insolvent (Fu *et al.*, 2014). It uses the ROA and EQTA for each bank and each period and the standard deviation of all banks in all periods. According to Lepetit and Strobel (2013), this method could provide lower average RMSE (root mean squared errors) and it is better than the rolling method.

~~2.3.~~3.3. Independent variables: The excess remuneration

We define remuneration (that we extract the data from the annual report) as the total dollar cash remuneration received by either the directors, SSB, executives, or the CEO, in a given year. If it is not clearly stated in the annual report whether it is cash remuneration, we take the value of total remuneration. We argue that this method is reasonable because cash compensation has the highest portion in Asia (Groysberg *et al.*, 2021). In Asian companies, remuneration is mostly from the base salary that is not market-driven, while long-term incentives such as equity compensation generally are not offered (Groysberg *et al.*, 2021).[11]

In this paper, rather than using remuneration *per se*, we use excess remuneration as the more valid predictor of banks' risk-taking (Dah and Frye, 2017; Uhde, 2016)[12]. To calculate

[10] This approach aligns with previous researchers, such as Mueller and Sfrappini (2022) who ended their sample in 2019 to avoid the impact of COVID-19 on regulatory risk and bank lending; Essers and Ide(2019) who created a sub-sample of programs related to the IMF to avoid the confounding effects of crises; and Tekin and Polat,(2020) who excluded period of the Dot-com bubble in the United States during 1995–2001.

[11] This is also the reason why in this paper we use the word "remuneration" when we discuss our data and empirical method and empirical result.

[12] However, we will also use the real value of remuneration (not an excess) in the robustness section.

excess, we use a remuneration model following Uhde (2016): The total bank remuneration is a function of the bank size.

$$Rem_{it} = \alpha_0 + \beta_1 Size_{it} + \lambda\, CountryFE_j + \delta YearFE_t + \varepsilon_{i,t} \quad \ldots \quad (2)$$

Rem consists of *DirRem* (directors' remuneration), *SSBRem* (*Shariah* supervisory board remuneration), *ExRem* (executive remuneration), and *CEORem* (CEO remuneration); each of them is in logarithm form. Therefore, from equation (2), our estimation is four times—each time for each dependent variable. The excess is defined as the regression residuals. Following Uhde (2016), we add country and year fixed effects and estimate the equation using least square dummy variables (LSDV) because remuneration could vary across country and time. Islamic banks' dual banking market has notable differences country-by-country that should be taken into account. Some studies have reported that the institutional quality between countries matters in shaping Islamic banks' behavior (Bitar *et al.*, 2017; Bitar and Tarazi, 2019; Meslier *et al.*, 2017, 2020).

Residuals from equation (2) indeed are not in absolute value. A transformation using an exponential of logged residual is needed in order to obtain real 'excess' in USD. We could also calculate the predicted (normal) value of remuneration, taken from the exponential logged fitted value of the remuneration variable. Therefore, the real excess compensation could be defined as the difference between the exponential of logged director actual compensation and the exponential of predicted compensation.

~~2.4.~~3.4. Control variables

It is imperative to control for both bank- and country-specific factors when investigating the impact of excess remuneration because it could lessen the problem of omitted variable bias in the regression and, therefore, increase the estimation's validity. The first variable we use as a control in this paper is the return on assets (*ROA*) as a proxy for bank profitability following Unda and Ranasinghe (2019). Although more profitable firms are less likely to suffer financial distress (Dolde in Barth et al., 2012), other literature suggests that the nexus between profitability and risk-taking remains inconclusive (Martynova *et al.*, 2020). Second, we introduce *Size* calculated from the logarithm of the banks' total assets. Larger banks tend to be riskier (Dbouk *et al.*, 2020; Ferris *et al.*, 2017) and recent studies in Islamic banks also show the negative impact of bank size on stability (Ibrahim and Rizvi, 2018; Risfandy *et al.*, 2022). Third, we control for bank liquidity using the ratio of liquid assets to total assets (*LATA*) following prior empirical research (Dong *et al.*, 2016; Risfandy *et al.*, 2022; Uhde, 2016). We also consider bank inefficiency using cost to income ratio (*CIR*) following Beck et al. (2013). The operational inefficiency can increases bank risk, illustrating a moral hazard probability from poor (inefficient) banks that have greater incentives for risk taking (Abedifar *et al.*, 2013). The next two variables we employ in this paper is inflation (*INFL*) and gross domestic product growth (*GDPGR*) to control for the differences between country economic conditions in our sample (Ibrahim and Rizvi, 2018; Risfandy *et al.*, 2022).

~~2.5.~~3.5. Econometrics strategy

To investigate the impact of excess remuneration on bank risk taking, the following equation is constructed.

$$LogZ_{it} = \alpha_0 + \beta\ Excess_{it} + \varphi X_{it} + \gamma Z_{jt} + \varepsilon_{i,t} \quad \ldots \quad (3)$$

Excess is the excess remuneration obtained from the residuals of equation (2) and it comprises of *ExcessDir*, *ExcessSSB*, *ExcessEx*, and *ExcessCEO* in the logarithm form. *LogZ* is the logarithm of the z-score. *X* is a vector of bank-level control variables, whereas Z refers to a set of country-level control variables. Equation (3) is estimated using the fixed-effect method and we eliminate autocorrelation and heteroscedasticity problems using clustered standard errors at the bank levels.

~~3.~~4. Result

~~3.1.~~4.1. Descriptive statistics

Table 1 shows the descriptive statistics of the variables used in this research along with its brief definition/calculation. Especially for control variables, the statistics are consistent with the recent empirical research in Islamic banks (Al-Shboul et al., 2020; Hassan et al., 2019; Risfandy et al., 2020; Sobarsyah et al., 2020; among others). The ROA shows a mean of 0.5% and the maximum value is only 17%, suggesting that Islamic banks in our sample cannot show their strong ability to generate profit. On the other hand, Islamic banks could be categorized as safe in terms of their liquidity because the statistics show that Islamic banks on average have liquid assets of 24% over their total assets. The mean value of CIR is 75%, meaning that Islamic banks on average have 75% of operating cost compared to their total income. This value reflects that Islamic banks tend to have inefficiency problems in their business activities. Islamic banks often face inefficiency issues because they are considered to be more complex than the conventional ones as they must provide product innovations under *Shariah* compliance (Safiullah and Shamsuddin, 2022). For country-level variables, we have a 3% and 4% mean of inflation and GDP growth across countries in our sample, respectively.

[Table 1]

Table 2 shows the average remuneration by country as well as the number of banks in each country and the average number of directors, SSB members, and executives in each country. Most of our bank sample comes from Bahrain (18 banks or 17% of the sample), Malaysia (17 banks or 16%), and Indonesia (11 banks or 10%). Some of the countries only have one bank available (Iraq, Maldives, South Africa, Turkey). Bangladesh has the highest average number of directors (15 board members), while Indonesia has the lowest number (4 board members), possibly because Indonesia adopted the two-tier governance system (Risfandy *et al.*, 2021). However, the lowest number of executives are surprisingly not from Indonesia but from the United Kingdom's Islamic banks (2 members). The highest number of executives in our sample is observed from Qatar (13 board members). The average of SSB members ranges between 2 (Iraq) and 8 (Bangladesh), and the total sample average is four members.

Regarding the dollar value of remuneration, the highest-paid individual directors can be spotted in Qatar. They receive approximately USD 221,880 per person, and this value is about 30 times what Bangladesh directors earn. In the case of executives, we observe that Saudi Arabia has the highest remuneration since our data shows that each executive can earn approximately USD 689,260 each year. Although the UK has the fewest executives, their salaries rank second after Saudi Arabia, which earns USD 489,810 per year, followed by Qatar, where executives' salaries amount to USD 430.13 per year. United Kingdom's *Shariah* board members are the most paid compared to other countries, as they can earn approximately USD 557,500 per year. This dollar value is even more than two times what Qatar's *Shariah* board earns, although they ranked as the second highest-paid *Shariah* board member. We also provide the data for CEO yearly remuneration in our Table, and our statistics show that Malaysian CEOs have higher remuneration (approximately USD 644,190) than other CEOs. The lowest value could be observed from Saudi Arabia (USD 111,320), and this is also similar to other board-type remunerations.

[Table 2]

Table 3 shows the dollar values of predicted and excess remuneration. The directors, SSB, executives, and CEO on average are over-remunerated by approximately USD 497,440; USD 112,810; USD 134,303; and USD 222,900; respectively. By reflecting on the characteristics and performance of the banks (as we could see in the determinant of the remuneration in equation (2)), Qatar is the most over-paid country for the directors (with the excess of USD +1,017,910 per year), followed by Iraq (USD +655,010/year) and Oman (USD +541,85/year). Our statistics show that almost all directors are over-compensated, except Bangladesh that under-remunerated (USD −1,540/year).

Similar to the highest SSB remunerations, which are from the UK, the excess SSB remunerations also show that the UK ranks number one, with an excess value of USD 86,330 per year. All countries have excess for their SSB remunerations, while the Maldives is the only country with the lowest SSB excess value (USD 10 per year). Regarding executives, Saudi Arabia is also number one in overpaid executives (USD +1,625,740 per year), and this value is about 210 times the excess in South Africa (USD +7,730). Bangladesh is the only country with underpaid executives, and the negative excess value is quite significant (USD −14,025). Our estimation shows that for the CEO, most of them are over-remunerated with the average value from our sample being USD +28,290. It is only Saudi Arabia that shows the lowest excess of remuneration, though it is not a major issue because the amount is only USD 0.03 per year.

[Table 3]

~~3.2.~~4.2. Main result

Before performing the regression, we also check for multicollinearity issues by using correlation matrix and variance inflation factors following Zhou et al. (2021). The result shows

that there is no particular concern of multicollinearity between independent variables because the correlation coefficient VIF for all variables is less than 0.6 and 2, respectively[13].

Table 4 shows the baseline regression results between excess compensation and bank stability. The results indicate that the *ExcessDir* and *ExcessSSB* have a positive association with bank stability while *ExcessEx* and *ExcessCEO* do not show any significant impact. The variables *ExcessDir* and *ExcessSSB* are significant in the 1% and 5% levels, respectively, suggesting that our result is strong. This empirical evidence means that the high remuneration scheme in the board of directors (BOD) and *Shariah* supervisory board (SSB) could lessen the risk-taking incentive in Islamic banks. This result emphasizes the importance of an inseparable two-layer governance system in Islamic banks. Both of them have similar monitoring and advising functions in the bank but with a distinct focus. Islamic banks' SSB focus on *Shariah*-related matters, whereas the BOD has a role in ensuring better performance-related issues. The BOD and SSB are parts of good Islamic governance, such as the emphasis on useful cooperation amongst authorities (companies) and members of communities (stakeholders). All of them are stressed in the *Al Quran* and *Sunnah* consensus (Jan *et al.*, 2021)[14].

While previously the SSB was expected to focus on *Shariah*-related matters, recent discussion and empirical works even suggest that the SSB's role is vital and significant in the bank performance (Elnahass *et al.*, 2020; Farag *et al.*, 2017; Mollah and Zaman, 2015). The presence of reputed Islamic scholars in the SSB could maintain Islamic bank stakeholders' confidence, which indirectly leads to Islamic banks' performance. Nathan Garas and Pierce (2010) argue that the issued *fatwas* (Islamic judgments) could negatively affect the banks' performance and reduce the stakeholders' confidence if they are issued by negligent or unqualified *Shariah* scholars. The failure of SSB to meet stakeholders' expectations regarding the compliance of *Shariah*-related products and activities will therefore jeopardize the sustainability of Islamic banks (Meslier *et al.*, 2020). This is because Islamic stakeholders could withdraw their funds anytime from Islamic banks when they perceive that the SSB does not work as it should (Ginena and Hamid, 2015; Quttainah *et al.*, 2013).

The SSB indeed have a substantial power to restrain management from engaging in aggressive risk-taking behavior (Mollah and Zaman, 2015), leaving a positive impact on the remuneration-stability nexus and also the positive impact of the SSB characteristics on the Islamic bank's performance (Mollah *et al.*, 2016; Mollah and Zaman, 2015). Good remuneration for the *Shariah* scholar will be a good incentive for them to work more efficiently and fulfill their moral accountabilities (Elnahass *et al.*, 2020). In this case, our result relevant to the "efficiency wage hypothesis" and "optimal contracting approach" theories emanated from the agency theory, especially for directors and SSB as part of the leader of the Islamic banks (Adams and Ferreira, 2008; Bebchuk and Fried, 2003; Unda and Ranasinghe, 2019).

Regarding *ExcessEx* and *ExcessCEO*, we do not observe any significant impact. This means that the high remuneration design for the executives and CEO does not favor Islamic banks' stability and risk-taking. Looking back at the literature, this result is not without reason. Similar to their conventional peers, Islamic banks are in a heavily regulated environment.

[13] For the sake of space, we do not provide the Tables of correlation and VIF in this paper, but they are available upon request.
[14] *Al Quran*: 3:104, 5:2, and 9:71

Financial institutions face a number of restrictions that will limit the investment opportunity sets. Bai and Elyasiani (2013) assert that financial institutions have limited growth options, extensively higher leverage, and are insured by depository institutions. Therefore, the manager in financial institutions differ from those in non-financial firms because their managerial actions are limited by the regulation. Moreover, in the context of Islamic banks, the executives and CEOs should also comply with *Shariah*. They cannot engage in the products forbidden by Islamic law and to some extent, they have fewer opportunities than their conventional peers. For instance, when they have liquidity problems, they cannot seek funds from the money market because it is forbidden in Islam (Hassan *et al.*, 2019). This argument is also supported by several empirical works. Houston and James (1995) do not find a significant impact of equity-based incentives and banks' charter value and this is inconsistent with the hypothesis that compensation policies promote risk-taking incentives (moral hazard hypothesis). In a similar vein, employing a sample of 53 banks in Europe from 1999 to 2009, Ayadi in Barth et al. (2012) find that the structure of compensation in the banking industry does not promote risk-taking.

Another reason why the excess remuneration of the executive and CEO do not favor Islamic banks' stability is that *Shariah* might also promote the collectivism value. For instance, a decision regarding the *Shariah* practice should be made collectively by all SSB members. Bitar et al. (2017) also report in their study that the mean of individualism culture in countries applying dual banking systems is 42%[15]. This means that collectivism values, in opposition to individualism values, are stronger in Muslim countries. Therefore, the moral hazard hypothesis should also be irrelevant in Islamic banks because Islamic banks' risk-taking is not determined by only the CEO or several people in the executives. The CEO and other board members' activities are limited only to their delegated banking tasks and policies (Jarque and Prescott, 2020). Instead, it is more influenced by the activities of the whole organization, such as their subordinates, particularly lending officers (Jarque and Prescott, 2020). Moreover, although CEOs and executives receive substantially high excess remuneration, the highest portion of the labor wage paid by the banks always goes to the employees (Jarque and Prescott, 2020).

[Table 4]

~~4.~~5. Robustness

~~4.1.~~5.1. Split sample mean size

We perform various robustness checks in this paper to ensure that our findings are strong. The first test is by splitting the sample into banks below the average size and those above the average size. Table 5 shows that the coefficient of *ExcessDir* and *ExcessSSB* are negative and significant, similar to the result we obtain from the baseline. Once again, this result confirm that SSB plays an important role in *Shariah* governance within Islamic banking, regardless of bank size, as it has the authority to approve or reject an investment if it does not comply with *Shariah* (Meslier *et al.*, 2020). Moreover, the directors or BOD also cannot approve a strategy without agreement from the SSB (Almutairi and Quttainah, 2020).

[15] Bitar et al. (2017)'s sample is Muslim-dominated countries except for the Philippines, South Africa, and the United Kingdom.

[Table 5]

~~4.2.~~5.2. Other estimations of excess remuneration

We also conduct additional robustness checks in this paper by changing one of the main points of this paper: the computation of the excess remuneration. As aforementioned, we follow Uhde (2016) by estimating the remuneration using bank size, time-fixed effects, and country-fixed effects. In the first robustness checks, we use two other measures of excess. For the first excess proxy, we follow Uhde (2016) by only considering bank size to estimate remuneration because it is regarded as the most important factor in the banks' remuneration design. Executives typically will obtain higher pay in the larger banks, and it is to recompense the risk of larger banks they have to manage. Moreover, our result in Table 4 strongly shows a negative association between Size and z-score, implying a higher risk-taking from risky activities conducted by larger banks (Ibrahim *et al.*, 2019). Therefore, the first alternative model of remuneration estimation is as follows.

$$Rem_{it} = \alpha_0 + \beta_1 Size_{it} + \varepsilon_{i,t} \quad \dots \quad (4)$$

According to Brick et al. (2006), excess remuneration could also be measured by regressing real executive remuneration on all variables hypothesized to explain compensation. These variables are bank-level variables that presumably become strong predictors for remuneration (Hearn, 2013). Therefore, we construct the following equation adopting prior literature such as Dah and Frye (2017) to estimate the second alternative model of excess estimation.

$$Rem_{it} = \alpha_0 + \beta_1 LATA_{it-1} + \beta_2 Size_{it-1} + \beta_3 LLR_{it-1} + \beta_4 ROA_{it-1} + \beta_4 YearFE_{it-1} + \varepsilon_{i,t} \quad \dots \quad (5)$$

In equation (5), there are four aspects presumably associated with the amount of remuneration in the firm: i) LATA, defined as liquid assets to total assets, to proxy liquidity; ii) Size, calculated as the logarithm of total assets to proxy firm complexity; iii) LLR, defined as the ratio of loan loss reserve to total loan, to measure monitoring need, and iv) ROA or return on assets to measure bank performance. The equation (6) is estimated using the fixed effects method.

We provide the result of using two alternative approaches of excess estimation in Table 6. It could be seen that the two other excesses also provide similar results. The *ExcessDir* and *ExcessSSSB* are significant (columns 1, 2, 5, and 6) whereas *ExcessEx* and *ExcessCEO* are not significant (columns 3, 4, 7, and 8). It could be therefore concluded that using other computations of excess does not alter our main result[16].

[Table 6]

[16] We do not show the two other excess computation statistics, but it is available upon request.

~~4.3.~~5.3. Another z-score approach

For the second robustness check, we change the dependent variable. The z-score is the widely used risk-taking measurement in the banking literature because of its simplicity in constructing the measurements. As aforementioned earlier, there are various z-score proxies and in this paper, for alternative, we use Lepetit and Strobel (2013)'s method. Their z-score is technically calculated by using mean and standard deviation estimates of ROA calculated over the full sample and combining these with the current period of EQTA as follows.

$$Z_{it} = \frac{\mu ROA + EQTA_{it}}{\sigma ROA} \quad \dots \quad (6)$$

Lepetit and Strobel (2013) show that the z-score as in equation (6), is also a sound z-score measurement compared to other proxies because it empirically displays a fairly level of intertemporal volatility on bank-level and low-level potentially spurious volatility compared to the construction of time-varying z-score more generally. It is also very practical because the calculation does not need to drop observations as in the rolling method.

We provide the result in Table 7 column (1)-(4). It is clearly seen that our result is still consistent. We do not find any changes in the significance of our main variables.

[Table 7]

~~4.4.~~5.4. Robustness checks for endogeneity

Prior studies such as Uhde (2016) and Unda and Ranasinghe (2019) highlight the potency of endogeneity stemming from the reverse-causality issue between remuneration and risk. On the one hand, we hypothesize in this paper that risk-taking is a function of remuneration, and we obtain the result as predicted. On the other hand, one might also say that remuneration is a function of risk-taking because the firm with higher risk-taking will pay its managers more as a result of the firm's risk that the managers have to take into account. In other words, bank's risk may not be determined solely by the remuneration of the current year. However, previous remuneration could also have a significant effect. To solve this issue, we lag our excess variables, and we provide the result in columns (5)-(8) of Table 6. We find a positive and significant coefficient for *ExcessDir* and *ExcessSSB*, significant at the 10% and 5% levels, respectively, which is similar to our main result. The variables *ExcessEx* and *ExcessCEO* also show similar results, as they are not significant.

In addition to using lagged remuneration or independent variables, we also use the generalized method of moments (GMM) since this technique uses lagged dependent variables as internal instruments to control for endogeneity (Roodman, 2009). GMM can internally transform the data using a first-differencing transformation (one-step GMM) or a second-order transformation (two-step GMM). We used the two-step GMM to minimize data loss during the transformation process, as it provides more precise results (Arellano and Bover, 1995). The results, presented in Table 8, remain robust, with *ExcessDir* and *ExcessSSB* showing significant influence on bank risk.

[Table 8]

~~4.~~5.~~5.~~5. Other robustness checks

To provide various robustness checks for our findings, we conduct other robustness checks. First, we follow Uhde (2016) using the fixed effect technique to re-estimate equation (3) which presents the result in Table 8 column (1)-(4). The results do not change, and the level of significance is similar to those in our baseline result. The *ExcessDir* and *ExcessSSB* are significant at levels of 5% and 1%, respectively.

Second, some studies such as Unda and Ranasinghe (2019) use the real value of remuneration and do not estimate the excess. This is very reasonable if we do not have the purpose of estimating the excess and our analysis only focuses on the impact of remuneration levels on risk-taking. In this last robustness, instead of using excess, we estimate equation (3) using the real value of remuneration (in the logarithm form). However, we find no changes in the results, as shown in Table 9 column (5)-(8).

[Table 9]

~~5.~~6. Conclusion

This paper investigates how the remuneration policy in Islamic banks shapes risk-taking. Specifically, we investigate whether a high remuneration policy in Islamic banks could provide the board incentive for risk-taking, aligned with the "moral hazard hypothesis" or "managerial power approach." We collect the data of the remuneration of the directors, SSB, executives, and CEOs of the 109 banks operating in 18 countries for the period between 2011 and 2019. We use all board types because those are an integral part of Islamic banks' governance, and this is approach differs this study from other prior works either in Islamic or conventional banks. Our empirical finding suggests that the two aforementioned hypotheses are not confirmed. Although Islamic banks' board are over-remunerated, the high payment received by the directors and the SSB can mitigate the risk-taking incentives and therefore maintain Islamic banks stability. The board of directors (BOD) and SSB are two integral and inseparable parts of Islamic banks' governance. Each of them has its own important monitoring and advising function, and a good payment policy is needed for these functions. Whereas the BOD focuses on how Islamic banks behave prudently and maintain good accounting performance, the SSB has an objective to verify that all Islamic banks' transactions do not violate the *Shariah*. The *Shariah* governance even becomes more important nowadays because it provides public and customers' confidence regarding *Shariah*-related matters. These aspects can mitigate the risk uniquely in Islamic such as withdrawal risk. All in all, our results support another theory augment from the agency theory, that is, "efficiency wage hypothesis" or "optimal contracting approach".

In this paper, we also find that excess remuneration in executives and CEOs does not impact Islamic banks' risk-taking incentives. Different from the advisory and supervisory roles played by the BOD and SSB, the executives and CEO have a direct role in managing companies' day-to-day activities and possibly have a direct role in the risk-taking policy of Islamic banks. However, it should be noted that financial institutions by nature are different to

those non-financial institutions. The banks are considered as one of the most highly regulated institutions and therefore the CEO and managers have limited growth and investment opportunities. The banks also have a distinct leverage profile, which makes them behave very prudently because of interconnectedness with other banks and other non-financial institutions. The fact that Islamic banks have lots of *Shariah* objectives and requirements could also be the drivers of the minor managerial role of the executives and CEOs of Islamic banks.

Our findings have a great implication for the regulators. The main issue brought from the result of this paper is that the good monitoring activities from the board of directors and *Shariah* board will have a significant impact on reducing risk-taking incentives and therefore promoting the soundness of Islamic banks. The BOD and SSB are an integral part of the Islamic banks' good governance system. Theoretically, there should be more extensive monitoring activities rather than those in the conventional banks because the two layers of governance supervise the CEO and managers in Islamic banks. Therefore, it is plausible that the regulators should provide the well remuneration design especially for board of directors and SSB. In some countries such as Indonesia and Malaysia, the government have taken a specific action on this issue such as regarding the appointment and validation of the *Shariah* board in each Islamic bank.

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Table 1. The description and statistics of variables

Variable	Description	Obs.	Mean	S.D.	Min	Max
LogZ	The log of z-score to proxy bank stability	653	1.539	0.749	0.377	3.281
LogZ_alt	The log of z-score (alternative measure) following Lepetit and Strobel (2013)	653	1.523	0.758	-0.332	3.322
DirRem	Yearly director's remuneration in thousand USD	653	545.420	497.128	60.000	1,559.968
SSBRem	Yearly SSB's remuneration in thousand USD	400	104.331	115.952	8.141	777.169
ExRem	Yearly executive's remuneration in thousand USD	484	1,686.059	1,748.559	131.277	5,383.606
CEORem	Yearly CEO's remuneration in thousand USD	214	526.939	458.287	40.626	2,250.000
ExcessDir	Yearly excess director's remuneration in thousand USD	653	149.643	381.345	-475.641	1,442.510
ExcessSSB	Yearly excess SSB's remuneration in thousand USD	400	20.170	85.926	-222.450	690.261
ExcessEx	Yearly excess executive's remuneration in thousand USD	484	428.296	1,145.182	-2,190.031	4,877.323
ExcessCEO	Yearly excess CEO's remuneration in thousand USD	214	106.838	403.396	-490.651	1,704.102
ROA	Return on assets to proxy bank profitability	653	0.004	0.027	-0.139	0.118
Size	Size of banks proxied by the natural logarithm of total assets	653	14.505	1.855	9.395	17.888
LATA	Liquid assets to total assets to proxy liquidity	653	0.213	0.112	0.051	0.577
CIR	Cost to income ratio to proxy (in)efficiency	653	0.538	0.354	0.154	1.565
INFL	Inflation	653	0.036	0.031	-0.037	0.295
GDPGR	Growth of GDP	653	0.043	0.023	-0.047	0.152

Table 2. Average board remuneration by country (2011-2018)

CountryID	N Banks	N Dir (average)	DirRem (total)	DirRem (/person)	N Ex (average)	ExRem (total)	ExRem (/person)	N SSB (average)	SSBRem (total)	SSBRem (/person)	CEORem (/person)
Bahrain	18	9.13	343.73	40.44	8.84	1,177.27	116.22	3.44	94.51	31.90	157.63
Bangladesh	9	14.68	103.89	7.09	11.36	137.35	16.84	8.09	28.72	3.44	141.87
Egypt	3	9.06	649.00	70.10	12.24	3,270.06	220.04	4.29	.	.	.
Indonesia	11	4.05	329.48	77.10	4.62	1,019.05	204.07	2.38	72.82	30.21	.
Iraq	1	8.30	1,537.75	139.80	5.60	2,725.66	427.67	2.00	.	.	.
Kuwait	11	7.63	365.17	64.39	10.09	825.43	94.27	3.63	50.37	14.27	280.28
Lebanon	1	9.50	410.04	42.07	11.79	5,269.40	424.14	5.00	70.73	23.58	.
Malaysia	19	8.02	757.26	93.73	8.81	1,639.51	205.59	5.45	131.07	24.81	654.77
Maldives	1	6.33	205.07	32.85	5.67	.	.	3.17	27.66	8.88	.
Oman	2	7.46	767.86	97.03	8.95	2,085.65	228.83	3.70	121.64	34.92	179.69
Pakistan	7	7.57	220.23	25.27	9.42	1,306.87	119.58	2.09	55.63	20.13	555.48
Qatar	5	8.79	1,559.97	174.46	13.88	4,154.59	391.45	2.71	266.26	88.75	.
Saudi Arabia	4	10.26	1,170.62	111.80	10.03	5,321.52	694.78	4.37	.	.	113.70
South Africa	1	9.00	514.37	58.25	3.00	465.83	161.31	3.33	.	.	205.76
Turkey	1	8.48	.	.	9.17	934.60	234.68	.	.	.	.
United Arab Emirates	7	20.18	733.69	104.22	6.79	443.53	111.18	3.47	.	.	122.63
United Kingdom	5	7.10	629.64	94.30	2.39	979.62	489.81	3.00	572.66	190.89	.
Yemen	3	8.85	176.43	19.87	9.36	297.97	36.55	3.57	.	.	.
Total	109										
Average		9.12	545.42	71.24	8.58	1,686.06	215.05	4.03	104.33	29.39	526.94

Notes: Please see Table 1 for variable definitions. All remuneration variables (DirRem, ExRem, SSBRem, and CEORem) are in thousand USD.

Table 3. Predicted and excess remuneration value

CountryID	DirRem		SSBRem		ExRem		CEORem	
-	Predicted	Excess	Predicted	Excess	Predicted	Excess	Predicted	Excess
Bahrain	254.00	89.73	59.19	35.33	929.54	247.73	130.80	26.83
Bangladesh	112.10	-8.22	21.29	7.43	264.56	-127.21	135.70	6.17
Egypt	576.30	72.71	.	.	3,066.26	203.80	.	.
Indonesia	231.49	97.99	64.18	8.64	822.02	197.03	.	.
Iraq	801.57	736.18	.	.	2,681.62	44.03	.	.
Kuwait	166.34	198.82	31.72	18.65	459.22	366.21	202.02	78.26
Lebanon	391.86	18.18	70.77	-0.04	3,898.79	1,370.62	.	.
Malaysia	592.64	164.63	102.80	28.27	1,076.14	563.37	502.11	152.66
Maldives	202.09	2.98	27.53	0.13	.	.	.	.
Oman	361.76	406.11	118.69	2.95	1,421.61	664.04	177.18	2.51
Pakistan	156.24	63.99	36.85	18.78	874.56	432.31	501.33	54.15
Qatar	801.57	758.40	237.89	28.37	3,624.30	530.29	.	.
Saudi Arabia	801.57	369.06	.	.	3,834.25	1,487.27	111.18	2.52
South Africa	443.14	71.23	.	.	455.97	9.86	205.85	-0.09
Turkey	.	.	.	.	897.01	37.58	.	.
United Arab Emirates	673.24	60.45	.	.	417.50	26.03	122.63	0.01
United Kingdom	489.87	139.77	542.19	30.47	959.83	19.78	.	.
Yemen	165.71	10.72	.	.	264.56	33.41	.	.
Average	395.78	149.64	84.16	20.17	1,257.76	428.30	420.10	106.84

Notes: All values are in thousands of USD. The predicted value is the exponential of the fitted value of the estimation from Equation (1): y = x1 x2. Excess is the difference between the real and predicted value of the remuneration.

Table 4. Baseline result: Excess compensation and bank stability

	Excess =			
	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)
Excess	0.0923***	0.0683**	0.0321	0.0226
	(0.0287)	(0.0299)	(0.0452)	(0.0296)
ROA	0.132***	0.130***	0.177***	0.108***
	(0.0199)	(0.0237)	(0.0233)	(0.0394)
Size	-0.528***	-0.566***	-0.588***	-0.737***
	(0.0688)	(0.0840)	(0.0794)	(0.121)
LATA	0.366**	0.595***	0.371*	0.284
	(0.177)	(0.178)	(0.210)	(0.235)
CIR	-0.0133	0.00816	-0.0300	0.157**
	(0.0232)	(0.0416)	(0.0348)	(0.0606)
INFL	-0.412	-2.069**	-0.649	-2.117
	(0.571)	(1.021)	(0.652)	(1.604)
GDPGR	0.820*	0.473	0.632	2.236**
	(0.474)	(0.655)	(0.467)	(0.915)
Constant	9.061***	9.533***	10.08***	12.25***
	(0.979)	(1.199)	(1.110)	(1.825)
N obs.	653	400	484	214
N banks	109	66	86	34
R-sq.	0.468	0.549	0.522	0.701

Notes: Fixed effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year-fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

Table 5. Robustness: Using other estimations of Excess

	Excess by Uhde				Excess by Dah		
	Dir	SSB	Ex	CEO	Dir	SSB	Ex
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Excess	0.0839***	0.0666**	0.0210	0.00777	0.0812***	0.0515**	0.0351
	(0.0236)	(0.0269)	(0.0364)	(0.0250)	(0.0231)	(0.0231)	(0.0224)
ROA	0.133***	0.131***	0.177***	0.109***	0.0819***	0.126***	0.0968**
	(0.0201)	(0.0238)	(0.0236)	(0.0393)	(0.0252)	(0.0462)	(0.0375)
Size	-0.524***	-0.551***	-0.587***	-0.737***	-0.505***	-0.485***	-0.502***
	(0.0687)	(0.0816)	(0.0797)	(0.122)	(0.0842)	(0.123)	(0.0931)
LATA	0.367**	0.585***	0.377*	0.276	-0.0234	0.211	0.0870
	(0.177)	(0.178)	(0.205)	(0.237)	(0.156)	(0.163)	(0.190)
CIR	-0.0124	0.00695	-0.0299	0.155**	0.0406	0.0285	0.0326
	(0.0233)	(0.0415)	(0.0347)	(0.0607)	(0.0410)	(0.0717)	(0.0590)
INFL	-0.407	-2.014*	-0.671	-2.236	-0.599	-3.597***	-0.623
	(0.561)	(1.014)	(0.638)	(1.647)	(0.558)	(0.980)	(0.748)
GDPGR	0.831*	0.456	0.626	2.255**	1.099**	1.387**	0.731
	(0.477)	(0.659)	(0.468)	(0.909)	(0.510)	(0.641)	(0.574)
Constant	9.002***	9.285***	10.08***	12.27***	8.881***	8.552***	8.877***
	(0.977)	(1.162)	(1.116)	(1.849)	(1.231)	(1.815)	(1.354)
N obs.	653	400	484	214	446	260	363
N banks	109	66	86	34	87	52	77
R-sq.	0.469	0.550	0.522	0.700	0.401	0.404	0.393

Notes: Fixed effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for explanations. All regressions use year fixed effects. Robust standard errors are in parentheses. *, **, and *** significance in 10%, 5%, and 1% levels respectively.

Table 6. Robustness: LogZ_alt and Lag Excess

	Dependent variable = LogZ_alt				Dependent variable = LogZ			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0620***	0.0461**	0.0351	0.00174				
	(0.0181)	(0.0203)	(0.0214)	(0.0232)				
Lag Excess					0.0485**	0.0371	-0.0259	0.0116
					(0.0243)	(0.0322)	(0.0355)	(0.0247)
ROA	0.00117	-0.00332	-0.00787	-0.160	0.0615***	0.0546**	0.0865**	0.124***
	(0.0168)	(0.0386)	(0.0288)	(0.167)	(0.0175)	(0.0272)	(0.0331)	(0.0445)
Size	-0.469***	-0.395***	-0.450***	-0.564***	-0.459***	-0.474***	-0.493***	-0.712***
	(0.0799)	(0.110)	(0.0844)	(0.0835)	(0.0715)	(0.0851)	(0.0904)	(0.0993)
LATA	0.0438	0.184	0.103	-0.101	0.257*	0.392***	0.185	0.257
	(0.136)	(0.149)	(0.166)	(0.218)	(0.146)	(0.146)	(0.173)	(0.208)
CIR	0.0261	0.0405	0.0220	0.246***	-0.0221	0.0250	-0.0380	0.263***
	(0.0383)	(0.0611)	(0.0512)	(0.0775)	(0.0274)	(0.0427)	(0.0351)	(0.0739)
INFL	-0.575	-2.824***	-0.650	-2.332**	-0.581	-2.622***	-1.180*	-2.614**
	(0.516)	(0.849)	(0.715)	(1.060)	(0.506)	(0.926)	(0.671)	(1.156)
GDPGR	0.885*	0.871	0.563	2.378**	0.899	0.118	0.960	1.854
	(0.508)	(0.640)	(0.589)	(1.031)	(0.606)	(0.719)	(0.710)	(1.101)
Constant	8.340***	7.232***	8.104***	9.926***	8.147***	8.369***	8.788***	12.04***
	(1.169)	(1.614)	(1.219)	(1.284)	(1.015)	(1.217)	(1.300)	(1.488)
N obs.	451	264	369	162	565	346	420	182
N banks	87	52	77	29	106	65	84	32
R-sq	0.414	0.400	0.391	0.733	0.368	0.422	0.396	0.709

Notes: Fixed effects regressions. Please see Table 1 for variable explanations. All regressions use year fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

Table 7. Robustness: Random-effects estimation and the real value of remunerations

	Random effects regression				Real value			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Excess	0.0797***	0.0618**	0.0184	0.0308				
	(0.0261)	(0.0303)	(0.0445)	(0.0305)				
Rem					0.0800***	0.0622**	0.0281	0
					(0.0223)	(0.0248)	(0.0324)	(
ROA	0.117***	0.108***	0.152***	0.114*	0.133***	0.132***	0.177***	0
	(0.0203)	(0.0227)	(0.0286)	(0.0651)	(0.0206)	(0.0235)	(0.0235)	(
Size	-0.336***	-0.379***	-0.324***	-0.300***	-0.541***	-0.572***	-0.592***	-0
	(0.0440)	(0.0488)	(0.0579)	(0.0752)	(0.0697)	(0.0841)	(0.0799)	(
LATA	0.540**	0.737***	0.604**	0.726**	0.369**	0.594***	0.373*	
	(0.219)	(0.214)	(0.281)	(0.366)	(0.177)	(0.178)	(0.205)	(
CIR	0.00744	0.0365	0.00161	0.299***	-0.0130	0.00857	-0.0298	0
	(0.0258)	(0.0432)	(0.0434)	(0.0920)	(0.0234)	(0.0421)	(0.0346)	(
INFL	-0.710	-2.517***	-0.843	1.117	-0.454	-2.016*	-0.652	
	(0.585)	(0.972)	(0.763)	(1.669)	(0.568)	(1.010)	(0.645)	(
GDPGR	0.185	-0.537	0.212	-0.402	0.861*	0.462	0.627	2
	(0.516)	(0.695)	(0.571)	(2.080)	(0.480)	(0.654)	(0.468)	(
Constant	6.373***	6.931***	6.341***	5.855***	8.793***	9.330***	9.975***	1
	(0.648)	(0.702)	(0.844)	(1.105)	(0.969)	(1.169)	(1.107)	(
N obs.	653	400	484	214	653	400	484	
N banks	109	66	86	34	109	66	86	
R-sq.	0.437	0.519	0.469	0.595	0.470	0.553	0.523	

Notes: Please see Table 1 for variable explanations. All regressions use year fixed effects. Robust standard e
in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

Table 1. The description and statistics of variables

Variable	Description	Obs.	Mean	S.D.	Min	Max
LogZ	The log of z-score to proxy bank stability	720	1.382	0.760	0.152	3.164
LogZ_alt	The log of z-score (alternative measure) following Lepetit and Strobel (2013)	720	1.373	0.763	-0.388	3.224
DirRem	Yearly director's remuneration in thousand USD	720	643.812	609.746	66.282	1,945.670
SSBRem	Yearly SSB's remuneration in thousand USD	427	108.751	126.104	7.576	864.668
ExRem	Yearly executive's remuneration in thousand USD	493	1,763.023	1,835.545	131.277	5,617.000
CEORem	Yearly CEO's remuneration in thousand USD	229	519.610	473.934	40.626	3,091.458
ExcessDir	Yearly excess director's remuneration in thousand USD	720	195.351	488.732	-540.674	1,758.861
ExcessSSB	Yearly excess SSB's remuneration in thousand USD	427	20.745	91.465	-386.989	783.089
ExcessEx	Yearly excess executive's remuneration in thousand USD	493	458.386	1,205.989	-2,250.205	4,907.891
ExcessCEO	Yearly excess CEO's remuneration in thousand USD	229	104.335	413.686	-495.737	2,461.399
ROA	Return on assets to proxy bank profitability	720	0.005	0.030	-0.159	0.170
Size	Size of banks proxied by the natural logarithm of total assets	720	14.616	1.917	8.745	17.908
LATA	Liquid assets to total assets to proxy liquidity	720	0.247	0.120	0.059	0.692
CIR	Cost to income ratio to proxy (in)efficiency	720	0.757	0.357	0.320	1.569
INFL	Inflation	720	0.034	0.031	-0.021	0.295
GDPGR	Growth of GDP	720	0.042	0.023	-0.047	0.138

Table 2. Average remuneration by country (2011-2019)

CountryID	N Banks	N Dir (average)	DirRem (total)	DirRem (/person)	N Ex (average)	ExRem (total)	ExRem (/person)	N SSB (average)	SSBRem (total)	SSBRem (/person)	CEORem (/person)
Bahrain	18	9.48	474.64	51.04	8.66	1,174.18	115.84	3.57	93.88	31.25	157.63
Bangladesh	9	14.74	109.04	7.45	11.22	136.76	17.75	8.12	27.98	3.33	143.46
Egypt	3	9.11	673.53	71.20	11.67	3,270.06	220.04	4.39	9.88	1.77	.
Indonesia	11	4.05	333.05	77.44	4.62	1,012.39	205.75	2.38	73.19	30.57	.
Iraq	1	8.55	1,577.26	143.39	5.60	2,725.66	427.67	2.00	.	.	.
Kuwait	10	7.71	685.97	102.34	10.21	916.45	107.27	3.67	72.59	19.20	115.63
Malaysia	17	8.07	813.89	100.59	8.85	1,618.44	199.69	5.43	126.74	24.28	644.19
Maldives	1	6.57	185.24	29.34	6.71	321.04	24.70	3.14	27.66	8.88	.
Oman	2	7.46	957.01	120.68	8.95	2,154.46	234.91	3.70	124.65	35.93	188.16
Pakistan	7	7.57	219.84	25.05	9.42	1,345.50	117.62	2.09	62.24	21.64	568.29
Qatar	5	8.68	1,940.15	221.88	12.98	4,356.06	430.13	2.61	273.24	91.08	.
Saudi Arabia	4	10.28	1,228.93	120.18	10.06	5,541.22	689.26	4.37	.	.	111.32
South Africa	1	9.00	542.38	61.24	3.00	472.39	162.82	3.33	.	.	209.39
Turkey	1	8.48	.	.	9.17	910.20	221.84	.	.	.	.
United Arab Emirates	7	7.88	781.13	109.65	6.74	799.82	200.11	3.48	.	.	122.63
United Kingdom	5	6.88	701.75	102.88	2.31	979.62	489.81	2.91	577.50	192.50	.
Yemen	2	8.85	196.17	21.80	9.36	297.97	36.55	3.57	.	.	.
Total	104										
Average		8.43	713.75	85.38	8.21	1,648.95	229.51	3.67	133.60	41.86	282.59

Notes: Please see Table 1 for variable definitions. All remuneration variables (DirRem, ExRem, SSBRem, and CEORem) are in thousand USD.

Table 3. Predicted and excess remuneration value

CountryID	DirRem		SSBRem		ExRem		CEORem	
	Predicted	Excess	Predicted	Excess	Predicted	Excess	Predicted	Excess
Bahrain	322.70	151.93	60.57	33.31	948.69	225.49	130.69	26.93
Bangladesh	124.44	-15.40	20.47	7.51	277.02	-140.25	138.13	5.33
Egypt	597.21	76.32	9.63	0.25	3,072.77	197.29	.	.
Indonesia	231.02	102.03	64.83	8.36	839.82	172.58	.	.
Iraq	922.25	655.01	.	.	2,681.65	44.01	.	.
Kuwait	302.10	383.87	57.89	14.70	521.57	394.88	110.86	4.77
Malaysia	640.66	173.23	101.06	25.68	1,024.24	594.21	493.17	151.01
Maldives	173.32	11.92	27.56	0.10	321.04	0.00	.	.
Oman	415.17	541.85	122.32	2.33	1,520.99	633.47	185.85	2.31
Pakistan	170.01	49.83	42.32	19.92	981.83	363.67	507.50	60.79
Qatar	922.25	1,017.91	243.08	30.16	3,616.63	739.44	.	.
Saudi Arabia	919.29	309.64	.	.	3,915.48	1,625.74	108.10	3.22
South Africa	472.42	69.95	.	.	464.66	7.73	209.15	0.24
Turkey	.	.	.	.	880.31	29.89	.	.
United Arab Emirates	710.88	70.25	.	.	528.30	271.51	122.63	0.00
United Kingdom	557.73	144.01	491.17	86.33	959.59	20.03	.	.
Yemen	189.64	6.53	.	.	277.02	20.95	.	.
Average	479.44	234.30	112.81	20.79	1,343.03	305.92	222.90	28.29

Notes: All values are in thousands of USD. The predicted value is the exponential of the fitted value of the estimation from Equation (1): y = x1 x2. Excess is the difference between the real and predicted value of the remuneration.

Table 4. Baseline result: Excess compensation and bank stability

	Excess =			
	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)
Excess	0.0520**	0.118***	0.0295	0.0146
	(0.0223)	(0.0321)	(0.0439)	(0.0301)
ROA	0.144***	0.139***	0.202***	0.0565
	(0.0211)	(0.0255)	(0.0313)	(0.0758)
Size	-0.385***	-0.410***	-0.370***	-0.360***
	(0.0494)	(0.0600)	(0.0684)	(0.128)
LATA	0.622***	0.825***	0.709**	0.684*
	(0.209)	(0.226)	(0.293)	(0.405)
CIR	0.00733	-0.0191	0.0170	0.0285
	(0.0287)	(0.0260)	(0.0400)	(0.0381)
INFL	-0.356	-1.011	0.224	-0.263
	(0.606)	(1.214)	(0.795)	(1.780)
GDPGR	0.839*	1.478*	0.991	4.372**
	(0.494)	(0.781)	(0.611)	(1.983)
Constant	7.132***	7.235***	7.116***	6.462***
	(0.688)	(0.806)	(0.994)	(1.153)
N obs.	720	427	493	229
N banks	103	65	79	33
R-sq.	0.460	0.536	0.496	0.573

Notes: Random effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

Table 5. Robustness: split sample mean size

	Below the average size				Above the average size			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0846**	0.143**	-0.0390	0.484*	0.0408*	0.142**	0.0472	0.0116
	(0.0431)	(0.0622)	(0.0996)	(0.250)	(0.0208)	(0.0566)	(0.0372)	(0.0221)
ROA	0.0972***	0.0680***	0.163***	-0.00261	0.447***	0.0503	0.239***	0.778**
	(0.0256)	(0.0233)	(0.0413)	(0.120)	(0.0817)	(0.109)	(0.0398)	(0.370)
LATA	1.354***	1.800***	1.683***	1.884**	-0.104	0.382	-0.164	-0.195
	(0.362)	(0.476)	(0.525)	(0.819)	(0.243)	(0.453)	(0.264)	(0.325)
CIR	0.0900**	0.0856**	0.114**	0.102	0.154***	0.0545	0.0843**	0.178***
	(0.0356)	(0.0426)	(0.0487)	(0.0766)	(0.0416)	(0.0544)	(0.0411)	(0.0631)
INFL	-1.173	-2.142	-0.756	0.962	0.419	1.329	1.619*	3.290**
	(1.327)	(2.260)	(1.536)	(4.146)	(0.620)	(1.228)	(0.932)	(1.368)
GDPGR	0.343	3.368	0.275	8.618*	1.133**	1.660	1.592**	2.180
	(1.230)	(3.083)	(1.720)	(4.887)	(0.572)	(1.053)	(0.685)	(1.906)
Constant	2.191***	1.614***	2.263***	2.650***	1.330***	1.125***	1.822***	1.974***
	(0.269)	(0.372)	(0.814)	(0.300)	(0.344)	(0.277)	(0.511)	(0.263)
N obs.	330	194	206	70	390	233	287	159
N banks	61	38	42	12	61	43	50	26
R-sq.	0.375	0.391	0.433	0.390	0.232	0.133	0.353	0.439

Notes: Random effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

Table 6. Robustness: Using other estimations of Excess

	Excess by Uhde (2016)				Excess by Dah and Frye (2017)			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0547***	0.135***	0.0201	-0.00345	0.0590***	0.127***	0.0365	0.00458
	(0.0201)	(0.0348)	(0.0334)	(0.0179)	(0.0200)	(0.0422)	(0.0230)	(0.0218)
ROA	0.144***	0.141***	0.203***	0.0571	0.133***	0.184***	0.136***	-0.389
	(0.0214)	(0.0244)	(0.0317)	(0.0762)	(0.0286)	(0.0261)	(0.0400)	(0.558)
Size	-0.384***	-0.385***	-0.370***	-0.359***	-0.399***	-0.469***	-0.389***	-0.236***
	(0.0492)	(0.0574)	(0.0684)	(0.127)	(0.0584)	(0.0818)	(0.0839)	(0.0848)
LATA	0.624***	0.831***	0.711**	0.689*	0.196	0.253	0.123	0.0291
	(0.208)	(0.224)	(0.291)	(0.406)	(0.202)	(0.246)	(0.280)	(0.398)
CIR	0.00839	-0.0170	0.0174	0.0287	-0.0330	-0.0781***	-0.0405	0.0292
	(0.0288)	(0.0258)	(0.0404)	(0.0382)	(0.0234)	(0.0236)	(0.0320)	(0.0670)
INFL	-0.352	-0.961	0.206	-0.318	-0.402	-1.680*	0.0652	0.686
	(0.606)	(1.193)	(0.782)	(1.832)	(0.480)	(0.935)	(0.622)	(1.120)
GDPGR	0.849*	1.448*	0.996	4.429**	0.861*	0.801	1.035*	3.127*
	(0.495)	(0.773)	(0.610)	(1.968)	(0.493)	(0.617)	(0.590)	(1.632)
Constant	7.120***	6.837***	7.134***	6.446***	7.339***	8.341***	7.368***	4.208***
	(0.687)	(0.768)	(0.989)	(1.151)	(0.826)	(1.149)	(1.244)	(1.291)
N obs.	720	427	493	229	523	306	382	189
N banks	103	65	79	33	86	56	72	29
R-sq.	0.462	0.537	0.496	0.573	0.401	0.464	0.417	0.491

Notes: Random effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

Table 7. Robustness: LogZ_alt and Lag Excess

	Dependent variable = LogZ_alt				Dependent variable = LogZ			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0461***	0.115***	0.0322	0.00443				
	(0.0164)	(0.0390)	(0.0223)	(0.0210)				
Lag Excess					0.0425*	0.0710**	-0.0101	-0.00759
					(0.0217)	(0.0343)	(0.0354)	(0.0280)
ROA	0.0382*	0.0555*	0.0243	-0.550	0.0744***	0.0640***	0.0803***	-0.0268
	(0.0198)	(0.0296)	(0.0235)	(0.439)	(0.0167)	(0.0247)	(0.0263)	(0.137)
Size	-0.378***	-0.423***	-0.334***	-0.262***	-0.338***	-0.364***	-0.286***	-0.387***
	(0.0548)	(0.0810)	(0.0779)	(0.0864)	(0.0396)	(0.0504)	(0.0571)	(0.138)
LATA	0.216	0.202	0.131	-0.0467	0.431***	0.495**	0.340	0.193
	(0.188)	(0.220)	(0.254)	(0.345)	(0.164)	(0.194)	(0.227)	(0.360)
CIR	-0.0157	-0.0412**	-0.0190	0.0284	0.00329	0.00235	0.00964	0.0327
	(0.0193)	(0.0192)	(0.0244)	(0.0612)	(0.0192)	(0.0187)	(0.0237)	(0.0509)
INFL	-0.478	-1.594*	-0.141	0.512	-0.674	-1.554	-0.883	-0.949
	(0.455)	(0.819)	(0.607)	(0.994)	(0.512)	(1.073)	(0.761)	(1.311)
GDPGR	0.807*	0.836	1.068*	3.051**	1.267**	1.098	1.829***	2.974*
	(0.488)	(0.565)	(0.589)	(1.482)	(0.525)	(0.759)	(0.698)	(1.542)
Constant	7.062***	7.691***	6.571***	4.668***	6.608***	6.831***	6.034***	6.812***
	(0.777)	(1.146)	(1.160)	(1.324)	(0.544)	(0.663)	(0.801)	(1.348)
N obs.	528	310	388	189	657	390	457	203
N banks	86	56	72	29	101	63	77	31
R-sq	0.373	0.413	0.343	0.578	0.345	0.388	0.314	0.573

Notes: Random effects regressions. Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

Table 8. GMM

	Excess =			
	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)
Excess	0.0251*	0.0673***	0.0309	-0.00553
	(0.0131)	(0.0154)	(0.0237)	(0.0127)
L.LogZ	0.580***	0.458***	0.520***	0.435***
	(0.0337)	(0.0225)	(0.0323)	(0.0564)
ROA	0.166***	0.161***	0.209***	-0.00332
	(0.0103)	(0.00754)	(0.0114)	(0.0158)
Size	-0.407***	-0.594***	-0.461***	-0.569***
	(0.0367)	(0.0256)	(0.0358)	(0.0797)
LATA	-0.00160	0.0755	0.00742	0.286
	(0.0949)	(0.0745)	(0.0987)	(0.236)
CIR	-0.0279***	-0.0504***	-0.0199	-0.0776*
	(0.00987)	(0.00716)	(0.0128)	(0.0455)
INFL	-0.162	0.238	0.0602	0.696*
	(0.180)	(0.313)	(0.218)	(0.392)
GDPGR	0.148	0.0574	-0.145	0.134
	(0.206)	(0.232)	(0.306)	(1.327)
Constant	6.547***	9.218***	7.463***	9.212***
	(0.553)	(0.411)	(0.531)	(1.233)
N obs.	501	283	320	165
N banks	95	58	67	27
Sargan test	38.40	34.95	30.45	9.478
AR1 (p-value)	0.0857	0.0062	0.1555	0.0468
AR2 (p-value)	0.5061	0.7912	0.8144	0.9196

Notes: Generalized method of moments estimation. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year fixed effects. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

Table 9. Robustness: Random-effects estimation and the real value of remunerations

	Fixed effects regression				Real value			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Excess	0.0509**	0.0965***	0.0287	0.00288				
	(0.0246)	(0.0311)	(0.0441)	(0.0247)				
Rem					0.0546***	0.103***	0.0297	(
					(0.0189)	(0.0274)	(0.0321)	(
ROA	0.160***	0.187***	0.221***	0.0137	0.144***	0.141***	0.203***	(
	(0.0209)	(0.0302)	(0.0268)	(0.0279)	(0.0215)	(0.0244)	(0.0314)	(
Size	-0.560***	-0.728***	-0.637***	-1.031***	-0.393***	-0.407***	-0.377***	-(
	(0.0869)	(0.114)	(0.122)	(0.108)	(0.0494)	(0.0593)	(0.0682)	(
LATA	0.475**	0.554***	0.480**	0.332	0.624***	0.858***	0.705**	(
	(0.185)	(0.186)	(0.240)	(0.293)	(0.209)	(0.225)	(0.291)	(
CIR	-0.0283	-0.0943***	-0.0468	-0.189***	0.00874	-0.0148	0.0177	(
	(0.0310)	(0.0316)	(0.0508)	(0.0311)	(0.0288)	(0.0261)	(0.0402)	(
INFL	-0.541	-1.390	-0.133	-1.434	-0.357	-0.941	0.219	-
	(0.555)	(1.068)	(0.710)	(1.210)	(0.609)	(1.209)	(0.779)	(
GDPGR	0.862*	1.416**	0.802	4.354***	0.844*	1.543*	0.993	4
	(0.468)	(0.665)	(0.533)	(0.772)	(0.495)	(0.789)	(0.611)	(
Constant	9.387***	11.54***	10.58***	16.36***	6.928***	6.712***	7.035***	6
	(1.255)	(1.631)	(1.761)	(1.653)	(0.687)	(0.791)	(1.015)	(
N obs.	720	427	493	229	720	427	493	
N banks	103	65	79	33	103	65	79	
R-sq.	0.476	0.586	0.532	0.727	0.463	0.540	0.497	

Notes: Please see Table 1 for variable explanations. The dependent variable is bank stability (LogZ). All reg
use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote signifi
10%, 5%, and 1% levels respectively.

~~File: USG~~

Excess Rremuneration, Ggovernance, and Rrisk-Ttaking in Islamic Bbanks

Funding: This work was supported by American Indonesian Exchange Foundation.

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Abstract

We comprehensively investigate the impact of remuneration on the governance of Islamic banks pertaining to the board of directors (BOD), *Shariah* supervisory board (SSB), executives, and the chief executive officer (CEO). The research in this area is still muted, especially using samples of Islamic banks and involving all board member types. Using the hand-collected data of dollar remuneration on those board members, we estimate their ‘“normal”’ remuneration, and we find that all board types, including the CEO, are over-remunerated from USD 112,810 to 497,440. However, in further investigation, we find that the excess remuneration in the directors and SSB favoursfavors the Islamic banks, particularly to lessen the risk-taking incentive. Our result highlights the importance of Islamic banks' two-layer governance system, which has a role in preventing excessive risk-taking behaviourbehavior. Supporting the ‘“"efficiency wage hypothesis”’, the good remuneration design for

the directors and *Shariah* scholars will attenuate the agency problems in the context of Islamic banks. Regarding executives and the CEO, we do not find a significant impact of the excess remuneration. This is likely because the Islamic banking industry faces a number of restrictions due to its presence as a heavily regulated financial institution and the voluminous *Shariah* requirements that must be fulfilled in its operations.

Keywords:
excess compensation
excess remuneration
governance
Islamic banks
risk-taking

JEL Classification
G21
G28
J33
Z12

"*We get high salaries because we deserve them. If you pay peanuts, you get monkeys.*"
—A CEO of a bank in Pakistan[1]
"*Does Disney CEO Bob Iger have a good explanation for why he is being compensated more than $400 million while workers at Disneyland are homeless and relying on food stamps to feed their families?*"
Bernie Sanders[2]

1. Introduction

The remuneration or compensation of the company executives and directors will always be a hot topic to discuss. The statistics and reports show that their total pay, especially for executives, is unrealistic and could be hundreds of times that of average workers. For instance, the Economic Policy Institute (2019) has revealed that the annual compensation of the CEO has grown 940% since 1978, and it is 278 times that of their employees. Business Insider (2016) shows that the executives of the BBC even earn more than double that of the UK Prime Minister. For senior executives, the recession is even only a history because they consistently receive a significant increase in their salary despite the downward employment rate (The Guardian 2019). This condition creates much criticism from employees and even policymakers.

One may argue that it is reasonable if the CEO receives multiple times the employee's salary because they sit at the helm of a profit organisation~~organization~~ with billion-dollar assets, and they could be sacked at any time when the firm's performance is poor (Alam 2014). Chamorro-Premuzic (2016) asserts that C-suite leaders can be expected to influence the majority and organisation~~organization~~, and this differs from midlevel managers who only influence their team. In addition, Chamorro-Premuzic (2016) highlights that the CEO's pay differs from other employees because the personality and charisma of the CEO can shape the whole culture of the organisation~~organization~~. Moreover, the CEO'~~'~~s judgement~~judgment~~ can affect the key managerial and strategic decisions in the firm, and their reputation or social capital can also affect the firm's stock price and valuation (Chamorro-Premuzic 2016).

This paper extends the debate on ~~the~~ executives'~~'~~ pay, especially in the banking environment. Compared to other industries, banks and other financial services are heavily regulated. Financial institutions are more prone to troubles by nature. Their interconnectedness with other banks and firms will significantly impact the whole economy, especially if they face financial distress (Casu et al. 2015). Therefore, the wrong design of executive remuneration (e.g., excessive remuneration) could be the major driver of excessive risk-taking, becoming an additional cause of the financial crisis (Bebchuk and Fried 2003). However, one may also argue that because financial institutions have limited growth options, extensively higher leverage, and are insured by the depository institutions (Bai and Elyasiani 2013), their compensation scheme for executives and CEOs will have a lower impact on bank risk. The latter argument is supported by some empirical studies, such as Houston and James (1995). Ayadi in Barth et al. (2012) also finds that the structure of compensation in the banking industry does not promote risk-taking.

This paper focuses on Islamic banking as a particular type of bank that uses *Shariah* or Islamic law in its operations, and it has had substantial growth in the banking market recently. According to IFSB (2020), Islamic banks currently hold more than 70% of the Islamic financial services industry. Islamic banks have reported yearly growth of 12.75% and have an asset worth USD 1~~,~~765.8 trillion as of 2019 (IFSB 2020). Because of its significant development, the payments of directors and executives have also received attention recently. For instance, the CEO of Meezan Bank is the second-highest-paid banker in Pakistan, and he received Rs. 215 ~~-~~million or approximately USD 2,8 ~~-~~million in 2019 (Pakistani Journal 2020)[3]. For comparison, this amount is considerably high because it is less than half of BNP Paribas CEO, who is categorised~~categorized~~ as one of the top 20 highest-paid banking ~~CEO~~CEOs globally (Financial Times 2017).

Our primary question in this paper is whether board remuneration could promote risk-taking in Islamic banks. This is an important issue to investigate because Islamic banks generally possess a different risk profile than conventional ones. Although some studies suggest that they are less vulnerable during the financial crisis (Abedifar et al. 2013; Beck et al. 2013), Islamic banks have several limitations, such as the difficulties of seeking funds from the money market when they face liquidity problems (Hassan et al. 2019). Moreover, because Islamic banks operate based on profit and loss sharing principles and most Islamic banks operate in the dual banking markets, they are also subject to some particular risks, such as *displaced commercial risk* that can increase withdrawal risk. The profit and loss sharing mechanism in Islamic banks implies that the return/profit that they will share with the depositors (on the liability side) will depend on the return/profit they receive from the entrepreneur/borrower (on the assets side). In other words, the higher the return they obtain from the borrower, the higher the money they give to the depositors. A problem then occurs when Islamic banks do not obtain an adequate return from the borrower, but on the other hand, they have to maintain return payment to the depositors. In the modern Islamic finance concept, this is called *displaced commercial risk*. If this risk is not well managed, withdrawal risk will also occur. There is a risk of losing deposits to competition from other Islamic or conventional banks when actual rates of return are lower than expectations or the prevailing rates of return offered by competitors.[4].

The contribution of this paper is threefold. First, despite the abundance of empirical papers investigating Islamic banks' stability, to the best of our knowledge, interestingly, there are few studies that specifically analyse~~analyze~~ the effect of remuneration on the stability and risk-taking of Islamic banks. Since Islamic banks' risk profile substantially differs from those of conventional peers, the whole design of the

remuneration and its impact on bank risk should also not be the same. Recent studies have focused on Islamic banks' stability, soundness, and risk-taking (Abedifar et al. 2013; Beck et al. 2013). Some of them focus on the determinants of stability, such as size (Ibrahim and Rizvi 2017), competition (Risfandy et al. 2022), lending behaviour~~behavior~~ (Ibrahim and Rizvi 2018), political risk (Al-Shboul et al. 2020), and some other issues[5].

Second, this paper contributes to the literature stream by not only focusing on the CEO but also on other board types/highest layer/leaders in Islamic banks, including executives and directors. Recent studies in the conventional banks' sample look into remuneration issues only for bank executives and the CEO[6]. Bai and Elyasiani (2013) employ CEO compensation sensitivity to risk, or *vega*, and find that higher *vega* is associated with lower bank stability. In a similar vein, Gande and Kalpathy (2017) observe that the amount of emergency loans and total loan days outstanding increases in the pre-crisis *vega*, suggesting that equity incentives in CEO compensation contracts are positively related to risk-taking in financial firms. Jiang et al. (2019) provide evidence of the relationship between deferred cash compensation and risk-taking by analysing~~analyzing~~ a sample of 156 bank executives from 14 listed Chinese banks. Shah et al. (2017) find a negative relationship between CEO compensation and bank risk-taking both in ~~the pre-a~~the pre-nd post-crisis ~~period~~periods. Tian and Yang (2014) find that ~~although~~although CEO pay has dropped during the financial crisis, bank CEOs are still paid much better than their firms and shareholders. Using the simulation approach, Francis et al. (2015) find that ~~regulatory~~regulatory changes can result in a change in the composition of managerial compensation, which creates an environment of incentives for enhanced risk-taking. Uhde (2016) provides empirical evidence for a risk-increasing impact of excess compensation of their executives from an analysis of 63 banks in 16 European countries.

Third, our paper'~~'~~s focus is not solely on the remuneration of CEO and executives who often receive criticism both from the media and academic literature; we also focus on the remuneration of SSB, which became the second layer of the governance system in Islamic banks. Empirical studies about their role in the Islamic banks' governance are indeed well documented (Meslier et al. 2020; Mollah et al. 2016; Mollah and Zaman 2015; Safiullah and Shamsuddin 2018), but their position as part of the board that received remuneration receives lack empirical investigation. It might not be surprising that the executives and CEO received hundreds of thousands of dollars annually because of their position. In the case of SSB, because the number of Islamic scholars is minimal (the supply), the SSB position is actually in great demand and

should also receive vital attention.[7]. Plenty of Islamic scholars serve on more than one SSB, and high-profile SSB members could sit on 50–~~–~~70 banks (Abdul-Rahman 2010). A scholar in Islamic banks could charge the bank up to USD 88,500 per bank per year, and the amount could reach USD 500,000 for consultations of large capital market transactions (Khan and Bhatti 2008; Oseni et al. 2016).

The remainder of this paper is as follows. Section 2 ~~two~~ provides the literature and hypothesis. Section 3 ~~three~~ highlights the methodology and ~~econometrics~~econometric approach to answer our research question. Section 4 ~~four~~ provides the empirical result, followed by robustness checks in S~~s~~ection 5~~five~~. Section 6 ~~six~~ concludes.

2. Literature R~~r~~eview and H~~h~~ypothesis D~~d~~evelopment

2.1. Remuneration and W~~w~~age in Islam

Islam does not explicitly regulate how much wage (the upper and lower limit) should be earned by a Muslim because wealth is not a measure of Muslim success. In *Shariah*, the main determination of wage and remuneration usually uses the principles of justice, equality, and fairness. Islamic scholars have proposed various factors that influence wage determination, such as ‘~~“~~justice’~~”~~, ‘~~“~~equality’~~”~~, ‘~~“~~market based’~~”~~, ‘~~“~~skill’~~”~~, ‘~~“~~performance’~~”~~, ‘~~“~~basic needs’~~”~~ and others but therefore fail to conclude which factors are most important (Yasmeen 2023). –Therefore, it is argued that although the determinants of ‘~~“~~normal’~~”~~ wage are inconclusive, the main point to be highlighted is not how much wage ~~should~~ he/she ~~earns~~should earn, but for what the wage ~~give~~gives benefit ~~to.~~ In *the Shariah* concept, the wage/remuneration should be applied in such a way that it is enough and can satisfy and benefit his/her core members of the family (Ahmad 2011). This could be the minimum definition of a wage/salary/money/remuneration that people should have. At least, the wage should be able to feed his family, because if it is not, the Muslim will be considered as ‘~~“~~poor’~~”~~ (*fakir*/*miskin*).

While there is no single consensus about wage or remuneration in Islam, in another perspective, Islam promote entrepreneurship. Gümüsay (2015) highlights that entrepreneurship in Islam is based on three interlinked pillars: (1) pursuit of opportunities, (2) socio-economic and ethical, and (3) religio-spiritual and links people to God. The first and second pillars is somewhat already embedded in the common definition of ‘~~“~~good’~~”~~ entrepreneurship: looking for profit but still considering ethical values. The third pillar is more on the *halal* concept, viewing entrepreneurship as a human being activity as part of worshipping God.[8]. Moreover, Islam also encourages profit maximisation~~maximization~~. Ali et al. (2013) point out that profit maximisation~~maximization~~ is legitimate in Islam because it is an integral part

of business considerations, but it should not be the only goal of conducting business because business activity should be conducted ethically. Ali et al. (2013) also point out that in Islam, earnings and profits are approved as long as they do not lead to exploitation and harm to the community because the outcome of Islamic economics is the prosperity and welfare of the society.

2.2. Islamic Bbanks' Pprinciple

People generally believe that Islamic banks operate based on *Shariah* (Islamic law), which comes from the Quran and the hadith. This is true, but more specifically, the concept and application of Islamic banks stem from *fiqh al-muamalat* (Islamic jurisprudence for transactions). This is part of the *Shariah* that regulates how each Muslim interacts with others in non-worship activities, particularly social and economic activities. The other part, called *fiqh al-ibadat* (Islamic jurisprudence for worship) which regulates how Muslims should pray and how a person should maintain a relationship with God.

It is interesting to see that the existence of Islamic banks is a product of the *Shariah* and *fiqh al-muamalat*, but Islamic banks—although they have promising growth in the last decades—cannot replace the existing conventional banks. The Muslims see Islamic banks and their products as an alternative and not to replace conventional banks' products that they have used for a long time. People see that the prohibition of *riba* that stemmed from the *Shariah* is not necessarily similar to the prohibition of the conventional banks because conventional banks' interest is not necessarily similar to *riba* (Harahap and Risfandy 2022). The debate about this issue never ends, and therefore, it leaves it to each person which arguments he/she believes.

In essence, Islamic banks not only have the spirit to disallow conventional banks' interest but also bring ‘“trade’” and ‘“equity financing’” as ~~replacement.~~replacements[9]. The trade mechanism in Islamic banks is successfully applied and has become a prominent contract between the client and the banks. On average, Islamic banks allocate more than half a portion of their lending by using trade mechanisms (Meslier et al. 2020). This instrument is so far accepted by the market for both Islamic banks and their clients, especially in an environment characterised~~characterized~~ by high market imperfection and high asymmetric information, because it can be used to mimic conventional banks' interests. Since Islamic banks operate side-by-side with conventional ones in the same market, the mimicking mechanism is often used by Islamic banks to make them competitive in the market (Risfandy et al. 2022).

However, as the trade contract gains popularity, equity-based contract financing, which contains the main spirit of Islamic banks because it promotes profit and loss-sharing mechanisms, is often neglected. The percentage of equity-based lending is tiny and even missing in many banks across countries –(Meslier et al. 2020; Silvia et al. 2024). The banks and the clients often avoid this type of financing because it is complicated (Abedifar et al. 2013), very risky and could harm Islamic bank's financial stability (Hamza and Saadaoui 2013), and there is a lack of government support and regulatory harmonisation~~harmonization~~ (Kammer et al. 2015).

2.3. The G~~g~~overnance S~~s~~tructure of Islamic B~~b~~anks

Islamic banking has its unique characteristics in terms of business activities and governance. Typically, it features two layers of governance system: the ‘“~~"~~standard”~~"~~ board and the *Shariah* supervisory board/SSB (Ibrahim and Law 2020). The standard board leads banking institutions in matters related to management effectiveness, while the *Shariah* board ensures that banking operations and products comply with Islamic principles (Mollah et al. 2016).

Within the standard board, the leadership consists of the board of directors (BOD), the executive, and the chief executive officer (CEO). As in other institutions, the main roles of the BOD are to monitor and supervise the management (Fama and Jensen 1983), to manage conflicts of interest among stakeholders (Ajili and Bouri 2018), and to oversee the institution'~~'~~s performance (Dalwai et al. 2015). In fulfilling its duties, the BOD is assisted by the CEO and executive members. Sometimes, the CEO holds CEO duality, serving as both the general manager and the chairman of the board (Bank Negara Malaysia 2015).

The SSB operates under two governance models: the decentralised~~decentralized~~ model and the centralised~~centralized~~ model. In Islamic banks that follow the decentralised~~decentralized~~ model, each bank has its own independent SSB, with the authority to decide which products to offer (Alam, Miah, et al. 2020; Hamza 2013). In contrast, in the centralised~~centralized~~ model, the SSB, which is part of the central bank, regulates the compliance of Islamic banking products and activities within a country (Hamza 2013). Most countries adopt a decentralised~~decentralized~~ model, except for some countries, such as Turkey and Sudan, which prefer a centralised~~centralized~~ model.

The decentralised~~decentralized~~ SSB operates at a level parallel to the BOD but with distinct characteristics. SSB members specialise~~specialize~~ in Islamic commercial jurisprudence and should have expertise in Islamic financial institutions (AAOIFI 2004). This

specialisation~~specialization~~ helps facilitate their task of ensuring *Shariah* compliance and allows members to share their knowledge with each other easily. Although both the SSB and BOD are involved in strategic planning, the SSB focuses on current and past events, while the BOD concentrates on future strategy (AAOIFI 2004).

Prior empirical studies have been concerned with agency theory in Islamic banks. *Sharia* governance in Islamic banking requires collaboration between the SSB and the BOD, especially regarding *Shariah*-related issues (Khalil 2021). However, the difference in formal training backgrounds in *Shariah* law between the directors and the SSB can create conflicts of interest (Alam, Ramachandran, and Nahomy 2020; Garas S. 2012). On the other hand, integrating the roles of the BOD and SSB is crucial for controlling risk-taking (Ramly and Nordin 2018). The SSB, with its expertise and authority, can cancel any investment or product that does not comply *with Shariah* law (Meslier et al. 2020) and offer advice to the BOD, even if it may reduce potential benefits for the bank (Ullah et al. 2018).

2.4. Efficiency W~~w~~age Versus~~vs.~~ M~~m~~oral H~~h~~azard H~~h~~ypothesis

Two theories emanated from the literature concerning the compensation-risk-taking nexus of the boards. The first is the agency theory, which highlights the problem of managerial power and discretion (Jensen and Meckling 1976). Using their power, the managers could build their own empire and engage in any activities that do not align with the ultimate purpose of financial management: to increase shareholder wealth. The ‘“"optimal contracting approach’”" for their managers can predictably provide them with efficient incentives to maximise~~maximize~~ shareholder value (Bebchuk and Fried 2003). Some other researchers note this as the ‘“"efficiency wage hypothesis’”" (Adams and Ferreira 2008; Unda and Ranasinghe 2019). Under this theory, it is hypothesized that the firm's good compensation design will positively impact bank soundness. The boards are more likely to work better if they are paid more (Unda and Ranasinghe 2019) and even for a small difference in financial rewards (Adams and Ferreira 2008).

However, it is also argued that under the ‘“"managerial power approach’”" or ‘“"moral hazard hypothesis’,”" executive compensation is not only a potential instrument for addressing the agency problem but also part of the agency problem itself (Bebchuk and Fried 2003). By having a high compensation level, the executives could engage in excessive risk-taking to fulfil~~fulfill~~ their targets and satisfy shareholder expectations. In the case of a financial institution, this problem could be more severe because of the recent global financial crisis caused by the

increased risk-taking and pay motives of top executives of major banks (Ntim et al. 2013; Shah et al. 2017). It has also been largely discussed in the literature that risk-taking incentives in the bank are more pronounced than in the non-financial firm. Because the financial institution is highly leveraged, the manager and executives can shift risk to the dispersed debtholders (Uhde 2016). This mechanism is even more relevant in the presence of deposit insurance corporations when the managers could take excessive risk by expecting government bail-out for the depositors. In this regard, the risk may additionally be shifted to the regulators and taxpayers. In other words, the agency conflict that stems from excessive executive compensation could harm the stability of the financial market as a whole.

2.5. Hypothesis Dd~~d~~evelopment

Unlike the conventional banks' spirit that primarily focuses on maximising~~maximizing~~ shareholder values and providing financial intermediation for personnel and companies, Islamic banks have *Shariah* obligations that must be applied in their system and practice. The application of the *Shariah* is not just the prohibition of the *riba* (usury/interest) but also the motivation for the profit-and-loss sharing principle (Meslier et al. 2020), the existence of the *Shariah* board in the Islamic banks (Mollah and Zaman 2015), and also how the remuneration should be applied in Islamic banks. In *the Shariah* concept, the wage/remuneration should be applied in such a way that it is enough and can satisfy~~/~~ the core member of the family (Ahmad 2011). Over-remuneration, conceptually, is not prohibited in *Shariah*, as Islam also does not limit people ~~for~~from being rich. Moreover, Islam motivates people to seek money in order to be able to pay *zakat*, besides fulfilling the family needs.

In the ‘~~“~~"efficiency wage hypothesis’,~~”~~" good remuneration for the firm leader could benefit firm performance and firm stability (Adams and Ferreira 2008; Unda and Ranasinghe 2019). When we link this with the *Shariah* concept that permits people to have more money, the more money they will have, the more efficiently they will work and the faster they can fulfil~~fulfill~~ their responsibilities (Elnahass et al. 2020). Moreover, the concept of a two-layer governance system in Islamic banks theoretically will restrain Islamic bank leaders from having excessive risk-taking because they are double-monitored by the BOD and SSB: performance- and *Shariah*-related issues (Mollah and Zaman 2015). Therefore, even when Islamic banks’~~'~~ directors and executives are paid more, they are less likely to take excessive risk because the SSB highly monitors them. In this regard, the ‘~~“~~moral hazard hypothesis’~~”~~ is also less likely to happen. Moreover, the role of SSB has also improved recently, not only paying attention to the *Shariah* issues but also to the bank's performance (Elnahass et al. 2020; Farag et al. 2017; Mollah and

Zaman 2015). Without a doubt, the markets (and also the banks' stakeholders, including depositors) will have a positive view of Islamic banks that have reputable SSB members in their structure. Islamic banks will be at higher risk if they are monitored by ‘“"unqualified’”" Islamic scholars sitting in the SSB because the SSB (and its members) has the authority to issue a *fatwa* regarding whether the bank products are halal or not (Ginena and Hamid 2015; Quttainah et al. 2013). Based on this matter, in this paper, we hypothesize the following ‘“efficiency wage hypothesis’”:

H_1. *Islamic banks with higher leaders' remuneration are associated with lower risk-taking.*

3. Methodology

3.1. Sample Selection

We collect data on directors', SSBs', executives', and CEOs' remuneration/compensation from the annual report of all Islamic banks operating in the dual banking market worldwide. Our data is limited to the banks that: (1) publicly report the remuneration data in their annual report, and (2) have data that matches other datasets we retrieve from BvD BankFocus and WorldBank. We convert all remuneration data to a dollar value (USD) to better compare across countries. The period of this study is from 2011 to 2019. We restricted our sample to 2019 to isolate the effects of the economic crisis caused by the COVID-19 pandemic.[10] Finally, our final datasets comprise 720 observations of 104 Islamic banks in 17 countries.

3.2. Dependent Variable: The z-Score

For the dependent variable, we use a z-score as a widely used measure of risk-taking in both Islamic and conventional banks. The z-score is prevalent in the empirical banking literature because the calculation is simple and can be constructed using only accounting information. The z-score has various approaches (see, e.g., Boyd et al. (2006), Yeyati and Micco (2007), Cihák and Hesse (2007)) and in this paper, we follow the most widely used z-score (Beck et al. 2013; Cihák and Hesse 2007; Fiordelisi and Mare 2014; Fu et al. 2014; Laeven and Levine 2009; Risfandy et al. 2022) with the formula written in the following the Equation (1).

$$Z_{it} = \frac{\mathrm{ROA}_{it}+\mathrm{EQTA}_{it}}{\sigma \mathrm{ROA}} \qquad (1)$$

The ROA is return on assets and the EQTA corresponds to the capital–asset ratio. The z-score technically shows the number of standard deviations that bank return has to fall below its expected value to deplete equity and make the bank insolvent (Fu et al. 2014). It uses

the ROA and EQTA for each bank and each period and the standard deviation of all banks in all periods. According to Lepetit and Strobel (2013), this method could provide lower average RMSE (root mean squared errors) and it is better than the rolling method.

3.3. Independent Vvariables: The Eexcess Rremuneration

We define remuneration (that we extract the data from the annual report) as the total dollar cash remuneration received by either the directors, SSB, executives, or the CEO, in a given year. If it is not clearly stated in the annual report whether it is cash remuneration, we take the value of total remuneration. We argue that this method is reasonable because cash compensation has the highest portion in Asia (Groysberg et al. 2021). In Asian companies, remuneration is mostly from the base salary that is not market-driven, while long-term incentives such as equity compensation are generally not offered (Groysberg et al. 2021).[11]

In this paper, rather than using remuneration per se, we use excess remuneration as the more valid predictor of banks'' risk-taking (Dah and Frye 2017; Uhde 2016)[12]. To calculate excess, we use a remuneration model following Uhde (2016): Thethe total bank remuneration is a function of the bank size.

$$\mathrm{Rem}_{it} = \alpha_0 + \beta_1 \mathrm{Size}_{it} + \lambda\, \mathrm{CountryFE}_j + \delta\, \mathrm{YearFE}_t + \varepsilon_{i,t} \quad (2)$$

Rem consists of *DirRem* (directors'' remuneration), *SSBRem* (*Shariah* supervisory board remuneration), *ExRem* (executive remuneration), and *CEORem* (CEO remuneration); each of them is in logarithm form. Therefore, from Eequation (2), our estimation is four times—each time for each dependent variable. The excess is defined as the regression residuals. Following Uhde (2016), we add country and year fixed effects and estimate the equation using least square dummy variables (LSDV) because remuneration could vary across country and time. Islamic banks' dual banking market has notable differences country-by-country that should be taken into account. Some studies have reported that the institutional quality between countries matters in shaping Islamic banks' behaviourbehavior (Bitar et al. 2017; Bitar and Tarazi 2019; Meslier et al. 2017, 2020).

Residuals from Eequation (2) indeed are not in absolute value. A transformation using an exponential of logged residual is needed in order to obtain real ‘excess’ in USD. We could also calculate the predicted (normal) value of remuneration, taken from the exponential logged

fitted value of the remuneration variable. Therefore, the real excess compensation could be defined as the difference between the exponential of logged director actual compensation and the exponential of predicted compensation.

3.4. Control Vvariables

It is imperative to control for both bank- and country-specific factors when investigating the impact of excess remuneration because it could lessen the problem of omitted variable bias in the regression and, therefore, increase the estimation's validity. The first variable we use as a control in this paper is the return on assets (ROA) as a proxy for bank profitability following Unda and Ranasinghe (2019). Although more profitable firms are less likely to suffer financial distress (Dolde in Barth et al. 2012), other literature suggests that the nexus between profitability and risk-taking remains inconclusive (Martynova et al. 2020). Second, we introduce *Size* calculated from the logarithm of the banks'' total assets. Larger banks tend to be riskier (Dbouk et al. 2020; Ferris et al. 2017) and recent studies in Islamic banks also show the negative impact of bank size on stability (Ibrahim and Rizvi 2018; Risfandy et al. 2022). Third, we control for bank liquidity using the ratio of liquid assets to total assets (*LATA*) following prior empirical research (Dong et al. 2016; Risfandy et al. 2022; Uhde 2016). We also consider bank inefficiency using cost to income ratio (*CIR*) following Beck et al. (2013). Operational inefficiency can increase bank risk, illustrating a moral hazard probability from poor (inefficient) banks that have greater incentives for risk-taking (Abedifar et al. 2013). The next two variables we employ in this paper are inflation (*INFL*) and gross domestic product growth (*GDPGR*) to control for the differences between country economic conditions in our sample (Ibrahim and Rizvi 2018; Risfandy et al. 2022).

3.5. Econometrics Sstrategy

To investigate the impact of excess remuneration on bank risk taking, the following equation is constructed.

$$\text{Log}Z_{it} = \alpha_0 + \beta\ \text{Excess}_{it} + \varphi X_{it} + \gamma Z_{jt} + \varepsilon_{i,t} \qquad (3)$$

Excess is the excess remuneration obtained from the residuals of Eequation (2) and it comprises ~~of~~ *ExcessDir*, *ExcessSSB*, *ExcessEx*, and *ExcessCEO* in ~~the logarithm~~logarithmic form. Log*Z* is the logarithm of the z-score. *X* is a vector of bank-level control variables, whereas *Z* refers to a set of country-level control variables. Equation (3) is estimated using the fixed-effect method, and we eliminate autocorrelation and heteroscedasticity problems using clustered standard errors at the bank levels.

4. Result

4.1. Descriptive Sstatistics

Table 1 shows the descriptive statistics of the variables used in this research, along with their brief definitions/calculations. Especially for control variables, the statistics are consistent with the recent empirical research in Islamic banks (Al-Shboul et al. 2020; Hassan et al. 2019; Risfandy et al., 2020; Sobarsyah et al. 2020; among others). The ROA shows a mean of 0.5%, and the maximum value is only 17%, suggesting that Islamic banks in our sample cannot show their strong ability to generate profit. On the other hand, Islamic banks could be categorisedcategorized as safe in terms of their liquidity because the statistics show that Islamic banks on average have liquid assets of 24% over their total assets. The mean value of CIR is 75%, meaning that Islamic banks on average have 75% of operating costcosts compared to their total income. This value reflects that Islamic banks tend to have inefficiency problems in their business activities. Islamic banks often face inefficiency issues because they are considered to be more complex than conventional ones, as they must provide product innovations under *Shariah* compliance (Safiullah and Shamsuddin 2022). For country-level variables, we have a 3% and 4% mean of inflation and GDP growth across countries in our sample, respectively.

Table 2 shows the average remuneration by country as well as the number of banks in each country and the average number of directors, SSB members, and executives in each country. Most of our bank sample comes from Bahrain (18 banks or 17% of the sample), Malaysia (17 banks or 16%), and Indonesia (11 banks or 10%). Some of the countries only have one bank available (Iraq, Maldives, South Africa, Turkey). Bangladesh has the highest average number of directors (15 board members), while Indonesia has the lowest number (4 board members), possibly because Indonesia adopted the two-tier governance system (Risfandy et al. 2021). However, the lowest number of executives areis surprisingly not from Indonesia but from the United Kingdom'-s Islamic banks (2 members). The highest number of executives in our sample is observed from Qatar (13 board members). The average of SSB members ranges between 2 (Iraq) and 8 (Bangladesh), and the total sample average is four members.

Regarding the dollar value of remuneration, the highest-paid individual directors can be spotted in Qatar. They receive approximately USD 221,880 per person, and this value is about 30 times what Bangladesh directors earn. In the case of executives, we observe that Saudi Arabia has the highest remuneration since our data shows that each executive can earn approximately USD 689,260 each year. Although the UK

has the fewest executives, their salaries rank second after Saudi Arabia, which earns USD 489,810 per year, followed by Qatar, where executives' salaries amount to USD 430.13 per year. The United Kingdom's *Shariah* board members are the most paid compared to other countries, as they can earn approximately USD 557,500 per year. This dollar value is even more than two times what Qatar's *Shariah* board earns, although they ranked as the second highest-paid *Shariah* board ~~member~~members. We also provide the data for CEO yearly remuneration in our Table, and our statistics show that Malaysian CEOs have higher remuneration (approximately USD 644,190) than other CEOs. The lowest value could be observed in Saudi Arabia (USD 111,320), and this is also similar to other board-type remunerations.

Table 3 shows the dollar values of predicted and excess remuneration. The directors, SSB, executives, and CEO on average are over-remunerated by approximately USD 497,440; USD 112,810; USD 134,303; and USD 222,900; respectively. By reflecting on the characteristics and performance of the banks (as we could see in the determinant of the remuneration in E~~e~~quation (2)), Qatar is the most over-paid country for the directors (with an excess of USD +1~~,~~017,910 per year), followed by Iraq (USD +655,010/year) and Oman (USD +541,85/year). Our statistics show that almost all directors are over-compensated, except Bangladesh, which is under-remunerated (USD –~~=~~1~~,~~540/year).

Similar to the highest SSB remunerations, which are from the UK, the excess SSB remunerations also show that the UK ranks number one, with an excess value of USD 86,330 per year. All countries have excess for their SSB remunerations, while the Maldives is the only country with the lowest SSB excess value (USD 10 per year). Regarding executives, Saudi Arabia is also number one in overpaid executives (USD +1~~,~~625,740 per year), and this value is about 210 times the excess in South Africa (USD +7~~,~~730). Bangladesh is the only country with underpaid executives, and the negative excess value is quite significant (USD –~~=~~14,025). Our estimation shows that most CEOs are over-remunerated, with the average value from our sample being USD +28,290. Only Saudi Arabia shows the lowest excess of remuneration, though it is not a major issue because the amount is only USD 0.03 per year.

4.2. Main R~~r~~esult

Before performing the regression, we also check for multicollinearity issues by using a correlation matrix and variance inflation factors following Zhou et al. (2021). The result shows that there is no particular concern of multicollinearity between independent variables because the correlation coefficient and VIF for all variables ~~is~~are less than 0.6 and 2, respectively[13].

Table 4 shows the baseline regression results between excess compensation and bank stability. The results indicate that the *ExcessDir* and *ExcessSSB* have a positive association with bank stability, while *ExcessEx* and *ExcessCEO* do not show any significant impact. The variables *ExcessDir* and *ExcessSSB* are significant ~~in~~at the 1% and 5% levels, respectively, suggesting that our result is strong. This empirical evidence means that the high remuneration scheme in the ~~board of directors (~~BOD~~)~~ and *Shariah* supervisory board (SSB) could lessen the risk-taking incentive in Islamic banks. This result emphasises~~emphasizes~~ the importance of an inseparable two-layer governance system in Islamic banks. Both of them have similar monitoring and advising functions in the bank but with a distinct focus. Islamic banks'~~'~~ SSB ~~focus~~focuses on *Shariah*-related matters, whereas the BOD has a role in ensuring better performance-related issues. The BOD and SSB are parts of good Islamic governance, such as the emphasis on useful cooperation among~~amongst~~ authorities (companies) and members of communities (stakeholders). All of them are stressed in the *Al Quran* and *Sunnah* consensus (Jan et al. 2021)[14].

While previously the SSB was expected to focus on *Shariah*-related matters, recent discussion and empirical works even suggest that the SSB's role is vital and significant in ~~the~~ bank performance (Elnahass et al. 2020; Farag et al. 2017; Mollah and Zaman 2015). The presence of reputed Islamic scholars in the SSB could maintain Islamic bank stakeholders' confidence, which indirectly leads to Islamic banks' performance. Nathan Garas and Pierce (2010) argue that the issued *fatwas* (Islamic judgements~~judgments~~) could negatively affect the banks' performance and reduce ~~the~~ stakeholders' confidence if negligent or unqualified *Shariah* scholars issue them. The failure of the SSB to meet stakeholders' expectations regarding the compliance of *Shariah*-related products and activities will therefore jeopardise~~jeopardize~~ the sustainability of Islamic banks (Meslier et al. 2020). This is because Islamic stakeholders could withdraw their funds from Islamic banks anytime when they perceive that the SSB does not work as it should (Ginena and Hamid 2015; Quttainah et al. 2013).

The SSB indeed has a substantial power to restrain management from engaging in aggressive risk-taking behaviour~~behavior~~ (Mollah and Zaman 2015), leaving a positive impact on the remuneration-stability nexus and also the positive impact of the SSB characteristics on the Islamic bank'~~'~~s performance (Mollah et al. 2016; Mollah and Zaman 2015). Good remuneration for *Shariah* scholar will be a good incentive for them to work more efficiently and fulfil~~fulfill~~ their moral accountabilities (Elnahass et al. 2020). In this case, our result relevant to the

‘“"efficiency wage hypothesis’”" and ‘“"optimal contracting approach’”" theories emanating from the agency theory, especially for directors and SSB as part of the leader of the Islamic banks (Adams and Ferreira 2008; Bebchuk and Fried 2003; Unda and Ranasinghe 2019).

Regarding *ExcessEx* and *ExcessCEO*, we do not observe any significant impact. This means that the high remuneration design for the executives and CEO does not favourfavor Islamic banks' stability and risk-taking. Looking back at the literature, this result is not without reason. Similar to their conventional peers, Islamic banks are in a heavily regulated environment. Financial institutions face a number of restrictions that will limit the investment opportunity sets. Bai and Elyasiani (2013) assert that financial institutions have limited growth options, extensively higher leverage, and are insured by depository institutions. Therefore, managermanagers in financial institutions differ from those in non-financial firms because their managerial actions are limited by the regulation. Moreover, in the context of Islamic banks, the executives and CEOs should also comply with *Shariah*. They cannot engage in the products forbidden by Islamic law, and to some extent, they have fewer opportunities than their conventional peers. For instance, when they have liquidity problems, they cannot seek funds from the money market because it is forbidden in Islam (Hassan et al. 2019). This argument is also supported by several empirical works. Houston and James (1995) do not find a significant impact of equity-based incentives and banks’ charter value, and this is inconsistent with the hypothesis that compensation policies promote risk-taking incentives (moral hazard hypothesis). In a similar vein, employing a sample of 53 banks in Europe from 1999 to 2009, Ayadi in Barth et al. (2012) findfinds that the structure of compensation in the banking industry does not promote risk-taking.

Another reason why the excess remuneration of the executive and CEO dodoes not favourfavor Islamic banks' stability is that *Shariah* might also promote the collectivism value. For instance, a decision regarding the *Shariah* practice should be made collectively by all SSB members. Bitar et al. (2017) also report in their study that the mean of individualism culture in countries applying dual banking systems is 42%[15]. This means that collectivism values, in opposition to individualism values, are stronger in Muslim countries. Therefore, the moral hazard hypothesis should also be irrelevant in Islamic banks because Islamic banks' risk-taking is not determined by only the CEO or several people in the executives. The CEO and other board members' activities are limited only to their delegated banking tasks and policies (Jarque and Prescott 2020). Instead, it is more influenced by the activities of the whole organisationorganization, such as their subordinates, particularly lending

officers (Jarque and Prescott 2020). Moreover, although CEOs and executives receive substantially high excess remuneration, the highest portion of the ~~labor~~labour wage paid by the banks always goes to the employees (Jarque and Prescott 2020).

5. Robustness

5.1. Split S~~s~~ample: S~~s~~mall and L~~l~~arge B~~b~~anks

We perform various robustness checks in this paper to ensure that our findings are strong. The first test splits the sample into banks below the average size (small banks) and those above the average (large banks). Table 5 shows that the coefficients of *ExcessDir* and *ExcessSSB* are negative and significant, similar to the result we obtained from the baseline. Once again, this result confirms that SSB plays an important role in *Shariah* governance within Islamic banking, regardless of bank size, as it has the authority to approve or reject an investment if it does not comply with *Shariah* (Meslier et al. 2020). Moreover, the directors or BOD also cannot approve a strategy without agreement from the SSB (Almutairi and Quttainah 2020).

5.2. Other E~~e~~stimations of E~~e~~xcess R~~r~~emuneration

We also conduct additional robustness checks in this paper by changing one of the main points of this paper: the computation of the excess remuneration. As aforementioned, we follow Uhde (2016) by estimating the remuneration using bank size, time-fixed effects, and country-fixed effects. In the first robustness ~~checks~~check, we use two other measures of excess. For the first excess proxy, we follow Uhde (2016) by only considering bank size to estimate remuneration because it is regarded as the most important factor in the banks' remuneration design. Executives typically will obtain higher pay in larger banks, and this is done to recompense the risk of larger banks they have to manage. Moreover, our result in Table 4 strongly shows a negative association between Size and z-score, implying a higher risk-taking from risky activities conducted by larger banks (Ibrahim et al. 2019). Therefore, the first alternative model of remuneration estimation is as follows.

$$\text{Rem}_{it} = \alpha_0 + \beta_1 \text{Size}_{it} + \varepsilon_{i,t} \quad (4)$$

According to Brick et al. (2006), excess remuneration could also be measured by regressing real executive remuneration on all variables ~~hypothesized~~hypothesised to explain compensation. These variables are bank-level variables that presumably become strong predictors for remuneration (Hearn 2013). Therefore, we construct the following equation adopting prior literature such as Dah and Frye (2017) to estimate the second alternative model of excess estimation.

$$\text{Rem}_{it} = \alpha_0 + \beta_1 \text{LATA}_{it-1} + \beta_2 \text{Size}_{it-1} + \beta_3 \text{LLR}_{it-1} + \beta_4 \text{ROA}_{it-1} + \beta_4 \text{YearFE}_{it-1} + \varepsilon_{i,t} \quad (5)$$

In Eequation (5), there are four aspects presumably associated with the amount of remuneration in the firm: (i) LATA, defined as liquid assets to total assets, to proxy liquidity; (ii) Size, calculated as the logarithm of total assets to proxy firm complexity; (iii) LLR, defined as the ratio of loan loss reserve to total loan, to measure monitoring need, and (iv) ROA or return on assets to measure bank performance. The equationEquation (6) is estimated using the fixed effects method.

We provide the result of using two alternative approaches of excess estimation in Table 6. It could be seen that the two other excesses also provide similar results. The *ExcessDir* and *ExcessSSSB* are significant (columns 1, 2, 5, and 6) whereas *ExcessEx* and *ExcessCEO* are not significant (columns 3, 4, 7, and 8). It could be therefore concluded that using other computations of excess does not alter our main result[16].

5.3. Another z-Sscore Aapproach

For the second robustness check, we change the dependent variable. The z-score is the widely used risk-taking measurement in the banking literature because of its simplicity in constructing the measurements. As aforementioned earlier, there are various z-score proxies and in this paper, for alternative, we use Lepetit and Strobel (2013)'s method. Their z-score is technically calculated by using mean and standard deviation estimates of ROA calculated over the full sample and combining these with the current period of EQTA as follows.

$$Z_{it} = \frac{\mu \text{ROA} + \text{EQTA}_{it}}{\sigma \text{ROA}} \quad (6)$$

-Lepetit and Strobel (2013) show that the z-score, as in Eequation (6), is also a sound z-score measurement compared to other proxies because it empirically displays a fair level of intertemporal volatility on bank- level and low-level potentially spurious volatility compared to the construction of time-varying z-score more generally. It is also very practical because the calculation does not need to drop observations as in the rolling method.

We provide the result in Table 7 column (1)– (4). It is clear that our result is still consistent. We do not find any changes in the significance of our main variables.

5.4. Robustness Cchecks for Eendogeneity

Prior studies such as Uhde (2016) and Unda and Ranasinghe (2019) highlight the potency of endogeneity stemming from the reverse-causality issue between remuneration and risk. On the one hand, we hypothesizehypothesise in this paper that risk-taking is a function of

remuneration, and we obtain the result as predicted. On the other hand, remuneration is also a function of risk-taking because the firm with higher risk-taking will pay its managers more as a result of the firm's risk, which the managers have to take into account. In other words, the bank's risk may not be determined solely by the remuneration of the current year. However, previous remuneration could also have a significant effect. To solve this issue, we lag our excess variables and provide the result in columns (5~~)~~ ~~-(~~8) of Table 6. We find a positive and significant coefficient for *ExcessDir* and *ExcessSSB*, significant at the 10% and 5% levels, respectively, which is similar to our main result. The variables *ExcessEx* and *ExcessCEO* also show similar results, as they are insignificant.

In addition to using lagged remuneration or independent variables, we also use the generalised~~generalized~~ method of moments (GMM) since this technique uses lagged dependent variables as internal instruments to control for endogeneity (Roodman 2009). GMM can internally transform the data using a first-differencing transformation (one-step GMM) or a second-order transformation (two-step GMM). We used the two-step GMM to minimise~~minimize~~ data loss during the transformation process, as it provides more precise results (Arellano and Bover 1995). The results in Table 8 remain robust, with *ExcessDir* and *ExcessSSB* showing significant influence on bank risk.

5.5. Other R~~r~~obustness C~~c~~hecks

To provide various robustness checks for our findings, we conduct other robustness checks. First, we follow Uhde (2016) using the fixed effect technique to re-estimate E~~e~~quation (3) which presents the result in Table 8 column (1~~)~~ ~~-(~~4). The results do not change, and the level of significance is similar to those in our baseline result. The *ExcessDir* and *ExcessSSB* are significant at levels of 5% and 1%, respectively.

Second, some studies such as Unda and Ranasinghe (2019) use the real value of remuneration and do not estimate the excess. This is very reasonable if we do not have the purpose of estimating the excess and our analysis only focuses on the impact of remuneration levels on risk-taking. In this last robustness, instead of using excess, we estimate E~~e~~quation (3) using the real value of remuneration (in the logarithm form). However, we find no changes in the results, as shown in Table 9 column (5~~)~~ ~~-(~~8).

6. Conclusion

This paper investigates how the remuneration policy in Islamic banks shapes risk-taking. Specifically, we investigate whether a high remuneration policy in Islamic banks could provide the board incentive for risk-taking, aligned with the ‘~~“~~moral hazard hypothesis’~~”~~ or ‘~~“~~managerial power approach’.~~”~~ We collect data on the remuneration of the directors, SSB, executives, and CEOs of the 109 banks operating

in 18 countries for the period between 2011 and 2019. We use all board types because those are an integral part of Islamic banks' governance, and this is approach differs this study from other prior works either in Islamic or conventional banks. Our empirical finding suggests that the two aforementioned hypotheses are not confirmed. Although Islamic banks' boards are over-remunerated, the high payment received by the directors and the SSB can mitigate the risk-taking incentives and, therefore, maintain Islamic bank's stability. The ~~board of directors (~~BOD~~)~~ and SSB are integral parts of Islamic banks' governance. Each of them has its own important monitoring and advising function, and a good payment policy is needed for these functions. Whereas the BOD focuses on how Islamic banks behave prudently and maintain good accounting performance, the SSB has an objective to verify that all Islamic banks' transactions do not violate the *Shariah*. *Shariah* governance is even more important nowadays because it provides the public and customers with confidence regarding *Shariah*-related matters. These aspects can mitigate the risk uniquely in Islamic banks, such as withdrawal risk. All in all, our results support another theory augmented by the agency theory, that is, the ‘“”efficiency wage hypothesis’”” or ‘“”optimal contracting approach’.””

In this paper, we also find that excess remuneration in executives and CEOs does not impact Islamic banks' risk-taking incentives. Different from the advisory and supervisory roles played by the BOD and SSB, the executives and CEO have a direct role in managing companies' day-to-day activities and possibly have a direct role in the risk-taking policy of Islamic banks. However, it should be noted that financial institutions are different from non-financial institutions. The banks are considered ~~as~~ one of the most highly regulated institutions and therefore the CEO and managers have limited growth and investment opportunities. The banks also have a distinct leverage profile, which makes them behave very prudently because of their interconnectedness with other banks and other non-financial institutions. The fact that Islamic banks have lots of *Shariah* objectives and requirements could also be the driver of the minor managerial role of the executives and CEOs of Islamic banks.

Our findings have great implications for the regulators. The main issue brought from the result of this paper is that good monitoring activities from the ~~board of directors~~BOD and *Shariah* board will have a significant impact on reducing risk-taking incentives and, therefore, promoting the soundness of Islamic banks. The BOD and SSB are an integral part of the Islamic banks' good governance system. Theoretically, there should be more extensive monitoring activities rather than those in conventional banks because the two layers of governance supervise the

CEO and managers in Islamic banks. Therefore, it is plausible that the regulators should provide a good remuneration design, especially for the BODboard of directors and SSB. In some countries, such as Indonesia and Malaysia, the government has taken specific action on this issue, such as regarding the appointment and validation of the *Shariah* board in each Islamic bank.

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TABLE 1. The description and statistics of variables.

Variable	Description	Obs.	Mean	S.D.	Min	Max
LogZ	The log of z-score to proxy bank stability	720	1.382	0.760	0.152	3.164
LogZ_alt	The log of z-score (alternative measure) following Lepetit and Strobel (2013)	720	1.373	0.763	−0.388	3.224
DirRem	Yearly director's remuneration in thousand USD	720	643.812	609.746	66.282	1945.670
SSBRem	Yearly SSB's remuneration in thousand USD	427	108.751	126.104	7.576	864.668
ExRem	Yearly executive's remuneration in thousand USD	493	1763.023	1,835.545	131.277	5,617.000
CEORem	Yearly CEO's remuneration in thousand USD	229	519.610	473.934	40.626	3,091.458
ExcessDir	Yearly excess director's remuneration in thousand USD	720	195.351	488.732	−540.674	1,758.861
ExcessSSB	Yearly excess SSB's remuneration in thousand USD	427	20.745	91.465	−386.989	783.089
ExcessEx	Yearly excess executive's remuneration in thousand USD	493	458.386	1,205.989	−2,250.205	4,907.891
ExcessCEO	Yearly excess CEO's remuneration in thousand USD	229	104.335	413.686	−495.737	2,461.399
ROA	Return on assets to proxy bank profitability	720	0.005	0.030	−0.159	0.170
Size	Size of banks proxied by the natural logarithm of total assets	720	14.616	1.917	8.745	17.908
LATA	Liquid assets to total assets to proxy liquidity	720	0.247	0.120	0.059	0.692
CIR	Cost to income ratio to proxy (in)efficiency	720	0.757	0.357	0.320	1.569

INFL	Inflation	720	0.034	0.031	−0.021	0.295
GDPGR	Growth of GDP	720	0.042	0.023	−0.047	0.138

TABLE 2. Average remuneration by country (2011–2019).

CountryID	*N* Banks	*N* Dir (average)	DirRem (total)	DirRem (/person)	*N* Ex (average)	ExRem (total)	ExRem (/person)	*N* SSB (average)	SSBRem (total)	SSBRem (/person)	CEORem (/person)
Bahrain	18	9.48	474.64	51.04	8.66	1,174.18	115.84	3.57	93.88	31.25	157.63
Bangladesh	9	14.74	109.04	7.45	11.22	136.76	17.75	8.12	27.98	3.33	143.46
Egypt	3	9.11	673.53	71.20	11.67	3,270.06	220.04	4.39	9.88	1.77	.
Indonesia	11	4.05	333.05	77.44	4.62	1,012.39	205.75	2.38	73.19	30.57	.
Iraq	1	8.55	1,577.26	143.39	5.60	2,725.66	427.67	2.00	.	.	.
Kuwait	10	7.71	685.97	102.34	10.21	916.45	107.27	3.67	72.59	19.20	115.63
Malaysia	17	8.07	813.89	100.59	8.85	1,618.44	199.69	5.43	126.74	24.28	644.19
Maldives	1	6.57	185.24	29.34	6.71	321.04	24.70	3.14	27.66	8.88	.
Oman	2	7.46	957.01	120.68	8.95	2,154.46	234.91	3.70	124.65	35.93	188.16
Pakistan	7	7.57	219.84	25.05	9.42	1,345.50	117.62	2.09	62.24	21.64	568.29
Qatar	5	8.68	1,940.15	221.88	12.98	4,356.06	430.13	2.61	273.24	91.08	.
Saudi Arabia	4	10.28	1,228.93	120.18	10.06	5,541.22	689.26	4.37	.	.	111.32
South Africa	1	9.00	542.38	61.24	3.00	472.39	162.82	3.33	.	.	209.39
Turkey	1	8.48	.	.	9.17	910.20	221.84	.	.	.	.

United Arab Emirates	7	7.88	781.13	109.65	6.74	799.82	200.11	3.48	.	.	122.63
United Kingdom	5	6.88	701.75	102.88	2.31	979.62	489.81	2.91	577.50	192.50	.
Yemen	2	8.85	196.17	21.80	9.36	297.97	36.55	3.57	.	.	.
Total	104										
Average		8.43	713.75	85.38	8.21	1,648.95	229.51	3.67	133.60	41.86	282.59

Note: ~~Notes:~~ Please see Table 1 for variable definitions. All remuneration variables (DirRem, ExRem, SSBRem, and CEORem) are in thousand USD.

TABLE 3. Predicted and excess remuneration value.

CountryID	DirRem		SSBRem		ExRem		CEORem	
	Predicted	Excess	Predicted	Excess	Predicted	Excess	Predicted	Excess
Bahrain	322.70	151.93	60.57	33.31	948.69	225.49	130.69	26.93
Bangladesh	124.44	-15.40	20.47	7.51	277.02	-140.25	138.13	5.33
Egypt	597.21	76.32	9.63	0.25	3,072.77	197.29	.	.
Indonesia	231.02	102.03	64.83	8.36	839.82	172.58	.	.
Iraq	922.25	655.01	.	.	2,681.65	44.01	.	.
Kuwait	302.10	383.87	57.89	14.70	521.57	394.88	110.86	4.77
Malaysia	640.66	173.23	101.06	25.68	1,024.24	594.21	493.17	151.01
Maldives	173.32	11.92	27.56	0.10	321.04	0.00	.	.
Oman	415.17	541.85	122.32	2.33	1,520.99	633.47	185.85	2.31
Pakistan	170.01	49.83	42.32	19.92	981.83	363.67	507.50	60.79
Qatar	922.25	1,017.91	243.08	30.16	3,616.63	739.44	.	.

Saudi Arabia	919.29	309.64	.	.	3,915.48	1,625.74	108.10	3.22
South Africa	472.42	69.95	.	.	464.66	7.73	209.15	0.24
Turkey	.	.	.	.	880.31	29.89	.	.
United Arab Emirates	710.88	70.25	.	.	528.30	271.51	122.63	0.00
United Kingdom	557.73	144.01	491.17	86.33	959.59	20.03	.	.
Yemen	189.64	6.53	.	.	277.02	20.95	.	.
Average	479.44	234.30	112.81	20.79	1,343.03	305.92	222.90	28.29

Note: Notes: All values are in thousands of USD. The predicted value is the exponential of the fitted value of the estimation from Equation (1): $y = x1\ x2$. Excess is the difference between the real and predicted value of the remuneration.

TABLE 4. Baseline result: Excess compensation and bank stability.

	Excess =			
	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)
Excess	0.0520**	0.118***	0.0295	0.0146
	(0.0223)	(0.0321)	(0.0439)	(0.0301)
ROA	0.144***	0.139***	0.202***	0.0565
	(0.0211)	(0.0255)	(0.0313)	(0.0758)
Size	−0.385***	−0.410***	−0.370***	−0.360***
	(0.0494)	(0.0600)	(0.0684)	(0.128)
LATA	0.622***	0.825***	0.709**	0.684*

	(0.209)	(0.226)	(0.293)	(0.405)
CIR	0.00733	−0.0191	0.0170	0.0285
	(0.0287)	(0.0260)	(0.0400)	(0.0381)
INFL	−0.356	−1.011	0.224	−0.263
	(0.606)	(1.214)	(0.795)	(1.780)
GDPGR	0.839*	1.478*	0.991	4.372**
	(0.494)	(0.781)	(0.611)	(1.983)
Constant	7.132***	7.235***	7.116***	6.462***
	(0.688)	(0.806)	(0.994)	(1.153)
N obs.	720	427	493	229
N banks	103	65	79	33
R-sq.	0.460	0.536	0.496	0.573

Note: ~~Notes:~~ Random effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance ~~in~~at the 10%, 5%, and 1% levels respectively.

TABLE 5~~.~~ Robustness: Small versus~~s.~~ large banks.

	Small				Large			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0846**	0.143**	−0.0390	0.484*	0.0408*	0.142**	0.0472	0.0116

	(0.0431)	(0.0622)	(0.0996)	(0.250)	(0.0208)	(0.0566)	(0.0372)	(0.0221)
ROA	0.0972***	0.0680***	0.163***	-0.00261	0.447***	0.0503	0.239***	0.778**
	(0.0256)	(0.0233)	(0.0413)	(0.120)	(0.0817)	(0.109)	(0.0398)	(0.370)
LATA	1.354***	1.800***	1.683***	1.884**	-0.104	0.382	-0.164	-0.195
	(0.362)	(0.476)	(0.525)	(0.819)	(0.243)	(0.453)	(0.264)	(0.325)
CIR	0.0900**	0.0856**	0.114**	0.102	0.154***	0.0545	0.0843**	0.178***
	(0.0356)	(0.0426)	(0.0487)	(0.0766)	(0.0416)	(0.0544)	(0.0411)	(0.0631)
INFL	-1.173	-2.142	-0.756	0.962	0.419	1.329	1.619*	3.290**
	(1.327)	(2.260)	(1.536)	(4.146)	(0.620)	(1.228)	(0.932)	(1.368)
GDPGR	0.343	3.368	0.275	8.618*	1.133**	1.660	1.592**	2.180
	(1.230)	(3.083)	(1.720)	(4.887)	(0.572)	(1.053)	(0.685)	(1.906)
Constant	2.191***	1.614***	2.263***	2.650***	1.330***	1.125***	1.822***	1.974***
	(0.269)	(0.372)	(0.814)	(0.300)	(0.344)	(0.277)	(0.511)	(0.263)
N obs.	330	194	206	70	390	233	287	159
N banks	61	38	42	12	61	43	50	26
R-sq.	0.375	0.391	0.433	0.390	0.232	0.133	0.353	0.439

Note: Random effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

TABLE 6. Robustness: Using other estimations of Excess.

	Excess by Uhde (2016)				Excess by Dah and Frye (2017)			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0547***	0.135***	0.0201	−0.00345	0.0590***	0.127***	0.0365	0.00458
	(0.0201)	(0.0348)	(0.0334)	(0.0179)	(0.0200)	(0.0422)	(0.0230)	(0.0218)
ROA	0.144***	0.141***	0.203***	0.0571	0.133***	0.184***	0.136***	−0.389
	(0.0214)	(0.0244)	(0.0317)	(0.0762)	(0.0286)	(0.0261)	(0.0400)	(0.558)
Size	−0.384***	−0.385***	−0.370***	−0.359***	−0.399***	−0.469***	−0.389***	−0.236***
	(0.0492)	(0.0574)	(0.0684)	(0.127)	(0.0584)	(0.0818)	(0.0839)	(0.0848)
LATA	0.624***	0.831***	0.711**	0.689*	0.196	0.253	0.123	0.0291
	(0.208)	(0.224)	(0.291)	(0.406)	(0.202)	(0.246)	(0.280)	(0.398)
CIR	0.00839	−0.0170	0.0174	0.0287	−0.0330	−0.0781***	−0.0405	0.0292
	(0.0288)	(0.0258)	(0.0404)	(0.0382)	(0.0234)	(0.0236)	(0.0320)	(0.0670)
INFL	−0.352	−0.961	0.206	−0.318	−0.402	−1.680*	0.0652	0.686
	(0.606)	(1.193)	(0.782)	(1.832)	(0.480)	(0.935)	(0.622)	(1.120)
GDPGR	0.849*	1.448*	0.996	4.429**	0.861*	0.801	1.035*	3.127*
	(0.495)	(0.773)	(0.610)	(1.968)	(0.493)	(0.617)	(0.590)	(1.632)
Constant	7.120***	6.837***	7.134***	6.446***	7.339***	8.341***	7.368***	4.208***
	(0.687)	(0.768)	(0.989)	(1.151)	(0.826)	(1.149)	(1.244)	(1.291)
N obs.	720	427	493	229	523	306	382	189
N banks	103	65	79	33	86	56	72	29

R-sq.	0.462	0.537	0.496	0.573	0.401	0.464	0.417	0.491

Notes: Random effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

TABLE 7. Robustness: LogZ_alt and Lag Excess.

	Dependent variable = LogZ_alt				Dependent variable = LogZ			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0461***	0.115***	0.0322	0.00443				
	(0.0164)	(0.0390)	(0.0223)	(0.0210)				
Lag Excess					0.0425*	0.0710**	−0.0101	−0.00759
					(0.0217)	(0.0343)	(0.0354)	(0.0280)
ROA	0.0382*	0.0555*	0.0243	−0.550	0.0744***	0.0640***	0.0803***	−0.0268
	(0.0198)	(0.0296)	(0.0235)	(0.439)	(0.0167)	(0.0247)	(0.0263)	(0.137)
Size	−0.378***	−0.423***	−0.334***	−0.262***	−0.338***	−0.364***	−0.286***	−0.387***
	(0.0548)	(0.0810)	(0.0779)	(0.0864)	(0.0396)	(0.0504)	(0.0571)	(0.138)
LATA	0.216	0.202	0.131	−0.0467	0.431***	0.495**	0.340	0.193
	(0.188)	(0.220)	(0.254)	(0.345)	(0.164)	(0.194)	(0.227)	(0.360)
CIR	−0.0157	−0.0412**	−0.0190	0.0284	0.00329	0.00235	0.00964	0.0327
	(0.0193)	(0.0192)	(0.0244)	(0.0612)	(0.0192)	(0.0187)	(0.0237)	(0.0509)

INFL	−0.478	−1.594*	−0.141	0.512	−0.674	−1.554	−0.883	−0.949
	(0.455)	(0.819)	(0.607)	(0.994)	(0.512)	(1.073)	(0.761)	(1.311)
GDPGR	0.807*	0.836	1.068*	3.051**	1.267**	1.098	1.829***	2.974*
	(0.488)	(0.565)	(0.589)	(1.482)	(0.525)	(0.759)	(0.698)	(1.542)
Constant	7.062***	7.691***	6.571***	4.668***	6.608***	6.831***	6.034***	6.812***
	(0.777)	(1.146)	(1.160)	(1.324)	(0.544)	(0.663)	(0.801)	(1.348)
N obs.	528	310	388	189	657	390	457	203
N banks	86	56	72	29	101	63	77	31
R-sq	0.373	0.413	0.343	0.578	0.345	0.388	0.314	0.573

Notes: Random effects regressions. Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

TABLE 8. The generalized method of moments (GMM).

	Excess =			
	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)
Excess	0.0251*	0.0673***	0.0309	−0.00553
	(0.0131)	(0.0154)	(0.0237)	(0.0127)
L.LogZ	0.580***	0.458***	0.520***	0.435***
	(0.0337)	(0.0225)	(0.0323)	(0.0564)
ROA	0.166***	0.161***	0.209***	−0.00332
	(0.0103)	(0.00754)	(0.0114)	(0.0158)

Size	−0.407***	−0.594***	−0.461***	−0.569***
	(0.0367)	(0.0256)	(0.0358)	(0.0797)
LATA	−0.00160	0.0755	0.00742	0.286
	(0.0949)	(0.0745)	(0.0987)	(0.236)
CIR	−0.0279***	−0.0504***	−0.0199	−0.0776*
	(0.00987)	(0.00716)	(0.0128)	(0.0455)
INFL	−0.162	0.238	0.0602	0.696*
	(0.180)	(0.313)	(0.218)	(0.392)
GDPGR	0.148	0.0574	−0.145	0.134
	(0.206)	(0.232)	(0.306)	(1.327)
Constant	6.547***	9.218***	7.463***	9.212***
	(0.553)	(0.411)	(0.531)	(1.233)
N obs.	501	283	320	165
N banks	95	58	67	27
Sargan test	38.40	34.95	30.45	9.478
AR1 (*p*-value)	0.0857	0.0062	0.1555	0.0468
AR2 (*p*-value)	0.5061	0.7912	0.8144	0.9196

Notes: The generalized method of moments estimation. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country fixed effects. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

TABLE 9. Robustness: Fixed-effects estimation and the real value of remunerations

	Fixed effects regression				Real value			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

Excess	0.0509**	0.0965***	0.0287	0.00288				
	(0.0246)	(0.0311)	(0.0441)	(0.0247)				
Rem					0.0546***	0.103***	0.0297	0.0115
					(0.0189)	(0.0274)	(0.0321)	(0.0191)
ROA	0.160***	0.187***	0.221***	0.0137	0.144***	0.141***	0.203***	0.0565
	(0.0209)	(0.0302)	(0.0268)	(0.0279)	(0.0215)	(0.0244)	(0.0314)	(0.0759)
Size	−0.560***	−0.728***	−0.637***	−1.031***	−0.393***	−0.407***	−0.377***	−0.364***
	(0.0869)	(0.114)	(0.122)	(0.108)	(0.0494)	(0.0593)	(0.0682)	(0.129)
LATA	0.475**	0.554***	0.480**	0.332	0.624***	0.858***	0.705**	0.686*
	(0.185)	(0.186)	(0.240)	(0.293)	(0.209)	(0.225)	(0.291)	(0.405)
CIR	−0.0283	−0.0943***	−0.0468	−0.189***	0.00874	−0.0148	0.0177	0.0284
	(0.0310)	(0.0316)	(0.0508)	(0.0311)	(0.0288)	(0.0261)	(0.0402)	(0.0380)
INFL	−0.541	−1.390	−0.133	−1.434	−0.357	−0.941	0.219	−0.265
	(0.555)	(1.068)	(0.710)	(1.210)	(0.609)	(1.209)	(0.779)	(1.783)
GDPGR	0.862*	1.416**	0.802	4.354***	0.844*	1.543*	0.993	4.379**
	(0.468)	(0.665)	(0.533)	(0.772)	(0.495)	(0.789)	(0.611)	(1.974)
Constant	9.387***	11.54***	10.58***	16.36***	6.928***	6.712***	7.035***	6.433***
	(1.255)	(1.631)	(1.761)	(1.653)	(0.687)	(0.791)	(1.015)	(1.137)
N obs.	720	427	493	229	720	427	493	229
N banks	103	65	79	33	103	65	79	33
R-sq.	0.476	0.586	0.532	0.727	0.463	0.540	0.497	0.573

Note~~s~~: Please see Table 1 for variable explanations. The dependent variable is bank stability (LogZ). All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

[1] https://tribune.com.pk/story/672546/takeaway-the-curious-case-of-a-bank-ceos-salary.

[2] https://www.forbes.com/sites/rainerzitelmann/2019/10/07/why-do-so-many-people-think-that-ceos-earn-too-much/?sh=2d11af03152e.

[3] Meezan Bank is Pakistan's first and largest Islamic bank, offering a range of Shariah-compliant products.

[4] See, for example~~e.g.~~, (Daher et al. 2015) and (van Greuning and Iqbal 2008) for more details.

[5] For brevity, we do not provide a list of all prior studies on the issue of stability and risk-taking.

[6] In Islamic banks, the board of directors and *Shariah* supervisory board is an integral part of governance. Each board type provides one layer of governance to increase the effectiveness of Islamic banks' operational activities, which substantially differs from those of conventional peers.

[7] Indeed, there are a large number of Islamic scholars. However, the number of reputable Islamic scholars who are publicly well-known and who bring confidence to Islamic banks' customers is very limited.

[8] Gümüsay (2015) highlights that in Islam when people work, they see work as a religious duty, a form of ‘“”wor(k)ship’” to seek God’s bounty.

[9] The term ‘“trade’” refers to *Murabaha* contracts, while ‘“”equity financing’”” refers to *Mudaraba* and *Musharaka* contracts. Please see (Meslier et al. 2020; and Silvia et al. 2024) for details.

[10] This approach aligns with previous researchers, such as Mueller and Sfrappini (2022) who ended their sample in 2019 to avoid the impact of COVID-19 on regulatory risk and bank lending; Essers and Ide (2019) who created a sub-sample of programs related to IMF to avoid the confounding effects of crises; and Tekin and Polat (2020) who excluded period of the Dot-com bubble in the United States during 1995–2001.

[11] This is also the reason why in this paper, we use the word ‘“”remuneration’”” when we discuss our data and empirical method and empirical result.

[12] However, we will also use the real value of remuneration (not an excess) in the robustness section.

[13] For the sake of space, we do not provide the Tables of correlation and VIF in this paper, but they are available upon request.

[14] *Al Quran*: 3:104, 5:2, and 9:71.

[15] Bitar et al. (2017)’s sample is Muslim-dominated countries except for the Philippines, South Africa, and the United Kingdom.

[16] We do not show the two other excess computation statistics, but it is available upon request.

Excess Remuneration, Governance, and Risk-Taking in Islamic Banks

by Tastaftiyan Risfandy

Submission date: 26-Sep-2025 03:11PM (UTC+0700)
Submission ID: 2271406509
File name: IJFE_1.pdf (467.74K)
Word count: 15485
Character count: 76593

International Journal of Finance & Economics

WILEY

RESEARCH ARTICLE

Excess Remuneration, Governance, and Risk-Taking in Islamic Banks

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Received: 18 June 2023 | **Revised:** 15 February 2025 | **Accepted:** 10 July 2025

Funding: This work was supported by American Indonesian Exchange Foundation.

Keywords: excess compensation | excess remuneration | governance | Islamic banks | risk-taking

ABSTRACT

We comprehensively investigate the impact of remuneration on the governance of Islamic banks pertaining to the board of directors (BOD), *Shariah* supervisory board (SSB), executives, and the chief executive officer (CEO). The research in this area is still muted, especially using samples of Islamic banks and involving all board member types. Using the hand-collected data of dollar remuneration on those board members, we estimate their 'normal' remuneration, and we find that all board types, including the CEO, are over-remunerated from USD 20,790–305,920. However, in further investigation, we find that the excess remuneration in the directors and SSB favours the Islamic banks, particularly to lessen the risk-taking incentive. Our result highlights the importance of Islamic banks' two-layer governance system, which has a role in preventing excessive risk-taking behaviour. Supporting the 'efficiency wage hypothesis', the good remuneration design for the directors and *Shariah* scholars will attenuate the agency problems in the context of Islamic banks. Regarding executives and the CEO, we do not find a significant impact of the excess remuneration. This is likely because the Islamic banking industry faces a number of restrictions due to its presence as a heavily regulated financial institution and the voluminous *Shariah* requirements that must be fulfilled in its operations.

JEL Classification: G21, G28, J33, Z12

We get high salaries because we deserve them. If you pay peanuts, you get monkeys.

A CEO of a bank in Pakistan[1]

Does Disney CEO Bob Iger have a good explanation for why he is being compensated more than $400 million while workers at Disneyland are homeless and relying on food stamps to feed their families?

Bernie Sanders[2]

1 | Introduction

The remuneration or compensation of the company executives and directors will always be a hot topic to discuss. The statistics and reports show that their total pay, especially for executives, is unrealistic and could be hundreds of times that of average workers. For instance, the Economic Policy Institute (2019) has revealed that the annual compensation of the CEO has grown 940% since 1978, and it is 278 times that of their employees. Business Insider (2016) shows that the executives of the BBC

even earn more than double that of the UK Prime Minister. For senior executives, the recession is even only a history because they consistently receive a significant increase in their salary despite the downward employment rate (The Guardian 2019). This condition creates much criticism from employees and even policymakers.

One may argue that it is reasonable if the CEO receives multiple times the employee's salary because they sit at the helm of a profit organisation with billion-dollar assets, and they could be sacked at any time when the firm's performance is poor (Alam 2014). Chamorro-Premuzic (2016) asserts that C-suite leaders can be expected to influence the majority and organisation, and this differs from midlevel managers who only influence their team. In addition, Chamorro-Premuzic (2016) highlights that the CEO's pay differs from other employees because the personality and charisma of the CEO can shape the whole culture of the organisation. Moreover, the CEO's judgement can affect the key managerial and strategic decisions in the firm, and their reputation or social capital can also affect the firm's stock price and valuation (Chamorro-Premuzic 2016).

This paper extends the debate on executives' pay, especially in the banking environment. Compared to other industries, banks and other financial services are heavily regulated. Financial institutions are more prone to troubles by nature. Their interconnectedness with other banks and firms will significantly impact the whole economy, especially if they face financial distress (Casu et al. 2015). Therefore, the wrong design of executive remuneration (e.g., excessive remuneration) could be the major driver of excessive risk-taking, becoming an additional cause of the financial crisis (Bebchuk and Fried 2003). However, one may also argue that because financial institutions have limited growth options, extensively higher leverage, and are insured by the depository institutions (Bai and Elyasiani 2013), their compensation scheme for executives and CEOs will have a lower impact on bank risk. The latter argument is supported by some empirical studies, such as Houston and James (1995). Ayadi in Barth et al. (2012) also finds that the structure of compensation in the banking industry does not promote risk-taking.

This paper focuses on Islamic banking as a particular type of bank that uses *Shariah* or Islamic law in its operations, and it has had substantial growth in the banking market recently. According to IFSB (2020), Islamic banks currently hold more than 70% of the Islamic financial services industry. Islamic banks have reported yearly growth of 12.75% and have an asset worth USD 1765.8 trillion as of 2019 (IFSB 2020). Because of its significant development, the payments of directors and executives have also received attention recently. For instance, the CEO of Meezan Bank is the second-highest-paid banker in Pakistan, and he received Rs. 215 million or approximately USD 2,8 million in 2019 (Pakistani Journal 2020)[3]. For comparison, this amount is considerably high because it is less than half of BNP Paribas CEO, who is categorised as one of the top 20 highest-paid banking CEOs globally (Financial Times 2017).

Our primary question in this paper is whether board remuneration could promote risk-taking in Islamic banks. This is an important issue to investigate because Islamic banks generally possess a different risk profile than conventional ones. Although some studies suggest that they are less vulnerable during the financial crisis (Abedifar et al. 2013; Beck et al. 2013), Islamic banks have several limitations, such as the difficulties of seeking funds from the money market when they face liquidity problems (Hassan et al. 2019). Moreover, because Islamic banks operate based on profit and loss sharing principles and most Islamic banks operate in the dual banking markets, they are also subject to some particular risks, such as *displaced commercial risk* that can increase withdrawal risk. The profit and loss sharing mechanism in Islamic banks implies that the return/profit that they will share with the depositors (on the liability side) will depend on the return/profit they receive from the entrepreneur/borrower (on the assets side). In other words, the higher the return they obtain from the borrower, the higher the money they give to the depositors. A problem then occurs when Islamic banks do not obtain an adequate return from the borrower, but on the other hand, they have to maintain return payment to the depositors. In the modern Islamic finance concept, this is called *displaced commercial risk*. If this risk is not well managed, withdrawal risk will also occur. There is a risk of losing deposits to competition from other Islamic or conventional banks when actual rates of return are lower than expectations or the prevailing rates of return offered by competitors[4].

The contribution of this paper is threefold. First, despite the abundance of empirical papers investigating Islamic banks' stability, to the best of our knowledge, interestingly, there are few studies that specifically analyse the effect of remuneration on the stability and risk-taking of Islamic banks. Since Islamic banks' risk profile substantially differs from those of conventional peers, the whole design of the remuneration and its impact on bank risk should also not be the same. Recent studies have focused on Islamic banks' stability, soundness, and risk-taking (Abedifar et al. 2013; Beck et al. 2013). Some of them focus on the determinants of stability, such as size (Ibrahim and Rizvi 2017), competition (Risfandy et al. 2022), lending behaviour (Ibrahim and Rizvi 2018), political risk (Al-Shboul et al. 2020), and some other issues[5].

Second, this paper contributes to the literature stream by not only focusing on the CEO but also on other board types/highest layer/leaders in Islamic banks, including executives and directors. Recent studies in the conventional banks' sample look into remuneration issues only for bank executives and the CEO[6]. Bai and Elyasiani (2013) employ CEO compensation sensitivity to risk, or *vega*, and find that higher *vega* is associated with lower bank stability. In a similar vein, Gande and Kalpathy (2017) observe that the amount of emergency loans and total loan days outstanding increases in the pre-crisis *vega*, suggesting that equity incentives in CEO compensation contracts are positively related to risk-taking in financial firms. Jiang et al. (2019) provide evidence of the relationship between deferred cash compensation and risk-taking by analysing a sample of 156 bank executives from 14 listed Chinese banks. Shah et al. (2017) find a negative relationship between CEO compensation and bank risk-taking both in the pre- and post-crisis periods. Tian and Yang (2014) find that although CEO pay has dropped during the financial crisis, bank CEOs are still paid much better than their firms and shareholders. Using the simulation approach, Francis et al. (2015) find that regulatory changes can result in a change in the composition of managerial compensation, which

creates an environment of incentives for enhanced risk-taking. Uhde (2016) provides empirical evidence for a risk-increasing impact of excess compensation of their executives from an analysis of 63 banks in 16 European countries.

Third, our paper's focus is not solely on the remuneration of CEO and executives who often receive criticism both from the media and academic literature; we also focus on the remuneration of SSB, which became the second layer of the governance system in Islamic banks. Empirical studies about their role in the Islamic banks' governance are indeed well documented (Meslier et al. 2020; Mollah et al. 2016; Mollah and Zaman 2015; Safiullah and Shamsuddin 2018), but their position as part of the board that received remuneration receives lack empirical investigation. It might not be surprising that the executives and CEO received hundreds of thousands of dollars annually because of their position. In the case of SSB, because the number of Islamic scholars is minimal (the supply), the SSB position is actually in great demand and should also receive vital attention[7]. Plenty of Islamic scholars serve on more than one SSB, and high-profile SSB members could sit on 50–70 banks (Abdul-Rahman 2010). A scholar in Islamic banks could charge the bank up to USD 88,500 per bank per year, and the amount could reach USD 500,000 for consultations of large capital market transactions (Khan and Bhatti 2008; Oseni et al. 2016).

The remainder of this paper is as follows. Section 2 provides the literature and hypothesis. Section 3 highlights the methodology and econometric approach to answer our research question. Section 4 provides the empirical result, followed by robustness checks in Section 5. Section 6 concludes.

2 | Literature Review and Hypothesis Development

2.1 | Remuneration and Wage in Islam

Islam does not explicitly regulate how much wage (the upper and lower limit) should be earned by a Muslim because wealth is not a measure of Muslim success. In *Shariah*, the main determination of wage and remuneration usually uses the principles of justice, equality, and fairness. Islamic scholars have proposed various factors that influence wage determination, such as 'justice', 'equality', 'market based', 'skill', 'performance', 'basic needs' and others but therefore fail to conclude which factors are most important (Yasmeen 2023). Therefore, it is argued that although the determinants of 'normal' wage are inconclusive, the main point to be highlighted is not how much wage he/she should earn, but for what the wage gives benefit In *the Shariah* concept, the wage/remuneration should be applied in such a way that it is enough and can satisfy and benefit his/her core members of the family (Ahmad 2011). This could be the minimum definition of a wage/salary/money/remuneration that people should have. At least, the wage should be able to feed his family, because if it is not, the Muslim will be considered as 'poor' (*fakir/miskin*).

While there is no single consensus about wage or remuneration in Islam, in another perspective, Islam promote entrepreneurship. Gümüsay (2015) highlights that entrepreneurship in Islam is based on three interlinked pillars: (1) pursuit of opportunities, (2) socio-economic and ethical, and (3) religio-spiritual and links people to God. The first and second pillars is somewhat already embedded in the common definition of 'good' entrepreneurship: looking for profit but still considering ethical values. The third pillar is more on the *halal* concept, viewing entrepreneurship as a human being activity as part of worshipping God[8]. Moreover, Islam also encourages profit maximisation. Ali et al. (2013) point out that profit maximisation is legitimate in Islam because it is an integral part of business considerations, but it should not be the only goal of conducting business because business activity should be conducted ethically. Ali et al. (2013) also point out that in Islam, earnings and profits are approved as long as they do not lead to exploitation and harm to the community because the outcome of Islamic economics is the prosperity and welfare of the society.

2.2 | Islamic Banks' Principle

People generally believe that Islamic banks operate based on *Shariah* (Islamic law), which comes from the Quran and the hadith. This is true, but more specifically, the concept and application of Islamic banks stem from *fiqh al-muamalat* (Islamic jurisprudence for transactions). This is part of the *Shariah* that regulates how each Muslim interacts with others in non-worship activities, particularly social and economic activities. The other part, called *fiqh al-ibadat* (Islamic jurisprudence for worship) which regulates how Muslims should pray and how a person should maintain a relationship with God.

It is interesting to see that the existence of Islamic banks is a product of the *Shariah* and *fiqh al-muamalat*, but Islamic banks—although they have promising growth in the last decades—cannot replace the existing conventional banks. Muslims see Islamic banks and their products as an alternative and not to replace conventional banks' products that they have used for a long time. People see that the prohibition of *riba* that stemmed from the *Shariah* is not necessarily similar to the prohibition of the conventional banks because conventional banks' interest is not necessarily similar to *riba* (Harahap and Risfandy 2022). The debate about this issue never ends, and therefore, it leaves it to each person which arguments he/she believes.

In essence, Islamic banks not only have the spirit to disallow conventional banks' interest but also bring 'trade' and 'equity financing' as replacements[9]. The trade mechanism in Islamic banks is successfully applied and has become a prominent contract between the client and the banks. On average, Islamic banks allocate more than half a portion of their lending by using trade mechanisms (Meslier et al. 2020). This instrument is so far accepted by the market for both Islamic banks and their clients, especially in an environment characterised by high market imperfection and high asymmetric information, because it can be used to mimic conventional banks' interests. Since Islamic banks operate side-by-side with conventional ones in the same market, the mimicking mechanism is often used by Islamic banks to make them competitive in the market (Risfandy et al. 2022).

However, as the trade contract gains popularity, equity-based contract financing, which contains the main spirit of Islamic banks because it promotes profit and loss-sharing mechanisms, is often neglected. The percentage of equity-based lending is tiny and even missing in many banks across countries (Meslier et al. 2020; Silvia et al. 2024). The banks and the clients often avoid this type of financing because it is complicated (Abedifar et al. 2013), very risky and could harm Islamic bank's financial stability (Hamza and Saadaoui 2013), and there is a lack of government support and regulatory harmonisation (Kammer et al. 2015).

2.3 | The Governance Structure of Islamic Banks

Islamic banking has its unique characteristics in terms of business activities and governance. Typically, it features two layers of governance system: the 'standard' board and the *Shariah* supervisory board/SSB (Ibrahim and Law 2020). The standard board leads banking institutions in matters related to management effectiveness, while the *Shariah* board ensures that banking operations and products comply with Islamic principles (Mollah et al. 2016).

Within the standard board, the leadership consists of the board of directors (BOD), the executive, and the chief executive officer (CEO). As in other institutions, the main roles of the BOD are to monitor and supervise the management (Fama and Jensen 1983), to manage conflicts of interest among stakeholders (Ajili and Bouri 2018), and to oversee the institution's performance (Dalwai et al. 2015). In fulfilling its duties, the BOD is assisted by the CEO and executive members. Sometimes, the CEO holds CEO duality, serving as both the general manager and the chairman of the board (Bank Negara Malaysia 2015).

The SSB operates under two governance models: the decentralised model and the centralised model. In Islamic banks that follow the decentralised model, each bank has its own independent SSB, with the authority to decide which products to offer (Alam, Miah, et al. 2020; Hamza 2013). In contrast, in the centralised model, the SSB, which is part of the central bank, regulates the compliance of Islamic banking products and activities within a country (Hamza 2013). Most countries adopt a decentralised model, except for some countries, such as Turkey and Sudan, which prefer a centralised model.

The decentralised SSB operates at a level parallel to the BOD but with distinct characteristics. SSB members specialise in Islamic commercial jurisprudence and should have expertise in Islamic financial institutions (AAOIFI 2004). This specialisation helps facilitate their task of ensuring *Shariah* compliance and allows members to share their knowledge with each other easily. Although both the SSB and BOD are involved in strategic planning, the SSB focuses on current and past events, while the BOD concentrates on future strategy (AAOIFI 2004).

Prior empirical studies have been concerned with agency theory in Islamic banks. *Shariah* governance in Islamic banking requires collaboration between the SSB and the BOD, especially regarding *Shariah*-related issues (Khalil 2021). However, the difference in formal training backgrounds in *Shariah* law between the directors and the SSB can create conflicts of interest (Alam, Ramachandran, and Nahomy 2020; Garas S. 2012). On the other hand, integrating the roles of the BOD and SSB is crucial for controlling risk-taking (Ramly and Nordin 2018). The SSB, with its expertise and authority, can cancel any investment or product that does not comply *with Shariah* law (Meslier et al. 2020) and offer advice to the BOD, even if it may reduce potential benefits for the bank (Ullah et al. 2018).

2.4 | Efficiency Wage Versus Moral Hazard Hypothesis

Two theories emanated from the literature concerning the compensation-risk-taking nexus of the boards. The first is the agency theory, which highlights the problem of managerial power and discretion (Jensen and Meckling 1976). Using their power, the managers could build their own empire and engage in any activities that do not align with the ultimate purpose of financial management: to increase shareholder wealth. The 'optimal contracting approach' for their managers can predictably provide them with efficient incentives to maximise shareholder value (Bebchuk and Fried 2003). Some other researchers note this as the 'efficiency wage hypothesis' (Adams and Ferreira 2008; Unda and Ranasinghe 2019). Under this theory, it is hypothesized that the firm's good compensation design will positively impact bank soundness. The boards are more likely to work better if they are paid more (Unda and Ranasinghe 2019) and even for a small difference in financial rewards (Adams and Ferreira 2008).

However, it is also argued that under the 'managerial power approach' or 'moral hazard hypothesis', executive compensation is not only a potential instrument for addressing the agency problem but also part of the agency problem itself (Bebchuk and Fried 2003). By having a high compensation level, the executives could engage in excessive risk-taking to fulfil their targets and satisfy shareholder expectations. In the case of a financial institution, this problem could be more severe because of the recent global financial crisis caused by the increased risk-taking and pay motives of top executives of major banks (Ntim et al. 2013; Shah et al. 2017). It has also been largely discussed in the literature that risk-taking incentives in the bank are more pronounced than in the non-financial firm. Because the financial institution is highly leveraged, the manager and executives can shift risk to the dispersed debtholders (Uhde 2016). This mechanism is even more relevant in the presence of deposit insurance corporations when the managers could take excessive risk by expecting government bail-out for the depositors. In this regard, the risk may additionally be shifted to the regulators and taxpayers. In other words, the agency conflict that stems from excessive executive compensation could harm the stability of the financial market as a whole.

2.5 | Hypothesis Development

Unlike the conventional banks' spirit that primarily focuses on maximising shareholder values and providing financial intermediation for personnel and companies, Islamic banks

have *Shariah* obligations that must be applied in their system and practice. The application of the *Shariah* is not just the prohibition of the *riba* (usury/interest) but also the motivation for the profit-and-loss sharing principle (Meslier et al. 2020), the existence of the *Shariah* board in the Islamic banks (Mollah and Zaman 2015), and also how the remuneration should be applied in Islamic banks. In *the Shariah* concept, the wage/remuneration should be applied in such a way that it is enough and can satisfy the core member of the family (Ahmad 2011). Over-remuneration, conceptually, is not prohibited in *Shariah*, as Islam also does not limit people from being rich. Moreover, Islam motivates people to seek money in order to be able to pay *zakat*, besides fulfilling the family needs.

In the 'efficiency wage hypothesis', good remuneration for the firm leader could benefit firm performance and firm stability (Adams and Ferreira 2008; Unda and Ranasinghe 2019). When we link this with the *Shariah* concept that permits people to have more money, the more money they will have, the more efficiently they will work and the faster they can fulfil their responsibilities (Elnahass et al. 2020). Moreover, the concept of a two-layer governance system in Islamic banks theoretically will restrain Islamic bank leaders from having excessive risk-taking because they are double-monitored by the BOD and SSB: performance- and *Shariah*-related issues (Mollah and Zaman 2015). Therefore, even when Islamic banks' directors and executives are paid more, they are less likely to take excessive risk because the SSB highly monitors them. In this regard, the 'moral hazard hypothesis' is also less likely to happen. Moreover, the role of SSB has also improved recently, not only paying attention to the *Shariah* issues but also to the bank's performance (Elnahass et al. 2020; Farag et al. 2017; Mollah and Zaman 2015). Without a doubt, the markets (and also the banks' stakeholders, including depositors) will have a positive view of Islamic banks that have reputable SSB members in their structure. Islamic banks will be at higher risk if they are monitored by 'unqualified' Islamic scholars sitting in the SSB because the SSB (and its members) has the authority to issue a *fatwa* regarding whether the bank products are halal or not (Ginena and Hamid 2015; Quttainah et al. 2013). Based on this matter, in this paper, we hypothesize the following 'efficiency wage hypothesis':

H1. *Islamic banks with higher leaders' remuneration are associated with lower risk-taking.*

3 | Methodology

3.1 | Sample Selection

We collect data on directors', SSBs', executives', and CEOs' remuneration/compensation from the annual report of all Islamic banks operating in the dual banking market worldwide. Our data is limited to the banks that: (1) publicly report the remuneration data in their annual report, and (2) have data that matches other datasets we retrieve from BvD BankFocus and WorldBank. We convert all remuneration data to a dollar value (USD) to better compare across countries. The period of this study is from 2011 to 2019. We restricted our sample to 2019 to isolate the effects of the economic crisis caused by the COVID-19 pandemic.[10] Finally, our final datasets comprise 720 observations of 104 Islamic banks in 17 countries.

3.2 | Dependent Variable: The z-Score

For the dependent variable, we use a z-score as a widely used measure of risk-taking in both Islamic and conventional banks. The z-score is prevalent in the empirical banking literature because the calculation is simple and can be constructed using only accounting information. The z-score has various approaches (see, e.g., Boyd et al. (2006), Yeyati and Micco (2007), Cihák and Hesse (2007)) and in this paper, we follow the most widely used z-score (Beck et al. 2013; Cihák and Hesse 2007; Fiordelisi and Mare 2014; Fu et al. 2014; Laeven and Levine 2009; Risfandy et al. 2022) with the formula written in the following Equation (1).

$$Z_{it} = \frac{\mathrm{ROA}_{it} + \mathrm{EQTA}_{it}}{\sigma \mathrm{ROA}} \quad (1)$$

The ROA is return on assets and the EQTA corresponds to the capital–asset ratio. The z-score technically shows the number of standard deviations that bank return has to fall below its expected value to deplete equity and make the bank insolvent (Fu et al. 2014). It uses the ROA and EQTA for each bank and each period and the standard deviation of all banks in all periods. According to Lepetit and Strobel (2013), this method could provide lower average RMSE (root mean squared errors) and it is better than the rolling method.

3.3 | Independent Variables: The Excess Remuneration

We define remuneration (that we extract the data from the annual report) as the total dollar cash remuneration received by either the directors, SSB, executives, or the CEO, in a given year. If it is not clearly stated in the annual report whether it is cash remuneration, we take the value of total remuneration. We argue that this method is reasonable because cash compensation has the highest portion in Asia (Groysberg et al. 2021). In Asian companies, remuneration is mostly from the base salary that is not market-driven, while long-term incentives such as equity compensation are generally not offered (Groysberg et al. 2021).[11]

In this paper, rather than using remuneration *per se*, we use excess remuneration as the more valid predictor of banks' risk-taking (Dah and Frye 2017; Uhde 2016)[12]. To calculate excess, we use a remuneration model following Uhde (2016): the total bank remuneration is a function of the bank size.

$$\mathrm{Rem}_{it} = \alpha_0 + \beta_1 \mathrm{Size}_{it} + \lambda\, \mathrm{CountryFE}_j + \delta\, \mathrm{YearFE}_t + \varepsilon_{i,t} \quad (2)$$

Rem consists of *DirRem* (directors' remuneration), *SSBRem* (*Shariah* supervisory board remuneration), *ExRem* (executive remuneration), and *CEORem* (CEO remuneration); each of them is in logarithm form. Therefore, from Equation (2), our estimation is four times—each time for each dependent variable. The excess is defined as the regression residuals.

Following Uhde (2016), we add country and year fixed effects and estimate the equation using least square dummy variables (LSDV) because remuneration could vary across country and time. Islamic banks' dual banking market has notable differences country-by-country that should be taken into account. Some studies have reported that the institutional quality between countries matters in shaping Islamic banks' behaviour (Bitar et al. 2017; Bitar and Tarazi 2019; Meslier et al. 2017, 2020).

Residuals from Equation (2) indeed are not in absolute value. A transformation using an exponential of logged residual is needed in order to obtain real 'excess' in USD. We could also calculate the predicted (normal) value of remuneration, taken from the exponential logged fitted value of the remuneration variable. Therefore, the real excess compensation could be defined as the difference between the exponential of logged director actual compensation and the exponential of predicted compensation.

3.4 | Control Variables

It is imperative to control for both bank- and country-specific factors when investigating the impact of excess remuneration because it could lessen the problem of omitted variable bias in the regression and, therefore, increase the estimation's validity. The first variable we use as a control in this paper is the return on assets (ROA) as a proxy for bank profitability following Unda and Ranasinghe (2019). Although more profitable firms are less likely to suffer financial distress (Dolde in Barth et al. 2012), other literature suggests that the nexus between profitability and risk-taking remains inconclusive (Martynova et al. 2020). Second, we introduce *Size* calculated from the logarithm of the banks' total assets. Larger banks tend to be riskier (Dbouk et al. 2020; Ferris et al. 2017) and recent studies in Islamic banks also show the negative impact of bank size on stability (Ibrahim and Rizvi 2018; Risfandy et al. 2022). Third, we control for bank liquidity using the ratio of liquid assets to total assets (*LATA*) following prior empirical research (Dong et al. 2016; Risfandy et al. 2022; Uhde 2016). We also consider bank inefficiency using cost to income ratio (*CIR*) following Beck et al. (2013). Operational inefficiency can increase bank risk, illustrating a moral hazard probability from poor (inefficient) banks that have greater incentives for risk-taking (Abedifar et al. 2013). The next two variables we employ in this paper are inflation (*INFL*) and gross domestic product growth (*GDPGR*) to control for the differences between country economic conditions in our sample (Ibrahim and Rizvi 2018; Risfandy et al. 2022).

3.5 | Econometrics Strategy

To investigate the impact of excess remuneration on bank risk taking, the following equation is constructed.

$$\text{Log}Z_{it} = \alpha_0 + \beta\,\text{Excess}_{it} + \varphi X_{it} + \gamma Z_{jt} + \epsilon_{i,t} \quad (3)$$

Excess is the excess remuneration obtained from the residuals of Equation (2) and it comprises *ExcessDir*, *ExcessSSB*, *ExcessEx*, and *ExcessCEO* in logarithmic form. Log*Z* is the logarithm of the z-score. *X* is a vector of bank-level control variables, whereas *Z* refers to a set of country-level control variables. Equation (3) is estimated using the fixed-effect method, and we eliminate autocorrelation and heteroscedasticity problems using clustered standard errors at the bank levels.

4 | Result

4.1 | Descriptive Statistics

Table 1 shows the descriptive statistics of the variables used in this research, along with their brief definitions/calculations. Especially for control variables, the statistics are consistent with the recent empirical research in Islamic banks (Al-Shboul et al. 2020; Hassan et al. 2019; Risfandy et al. 2022; Sobarsyah et al. 2020; among others). The ROA shows a mean of 0.5%, and the maximum value is only 17%, suggesting that Islamic banks in our sample cannot show their strong ability to generate profit. On the other hand, Islamic banks could be categorised as safe in terms of their liquidity because the statistics show that Islamic banks on average have liquid assets of 24% over their total assets. The mean value of CIR is 75%, meaning that Islamic banks on average have 75% of operating costs compared to their total income. This value reflects that Islamic banks tend to have inefficiency problems in their business activities. Islamic banks often face inefficiency issues because they are considered to be more complex than conventional ones, as they must provide product innovations under *Shariah* compliance (Safiullah and Shamsuddin 2022). For country-level variables, we have a 3% and 4% mean of inflation and GDP growth across countries in our sample, respectively.

Table 2 shows the average remuneration by country as well as the number of banks in each country and the average number of directors, SSB members, and executives in each country. Most of our bank sample comes from Bahrain (18 banks or 17% of the sample), Malaysia (17 banks or 16%), and Indonesia (11 banks or 10%). Some of the countries only have one bank available (Iraq, Maldives, South Africa, Turkey). Bangladesh has the highest average number of directors (15 board members), while Indonesia has the lowest number (4 board members), possibly because Indonesia adopted the two-tier governance system (Risfandy et al. 2021). However, the lowest number of executives is surprisingly not from Indonesia but from the United Kingdom's Islamic banks (2 members). The highest number of executives in our sample is observed from Qatar (13 board members). The average of SSB members ranges between 2 (Iraq) and 8 (Bangladesh), and the total sample average is four members.

Regarding the dollar value of remuneration, the highest-paid individual directors can be spotted in Qatar. They receive approximately USD 221,880 per person, and this value is about 30 times what Bangladesh directors earn. In the case of executives, we observe that Saudi Arabia has the highest remuneration since our data shows that each executive can earn approximately USD 689,260 each year. Although the UK has the fewest executives, their salaries rank second after Saudi Arabia, which earns USD 489,810 per year, followed by Qatar, where executives' salaries amount to USD 430.13 per year. The United Kingdom's *Shariah* board members are the most paid compared to other countries, as they can earn approximately

TABLE 1 | The description and statistics of variables.

Variable	Description	Obs.	Mean	S.D.	Min	Max
LogZ	The log of z-score to proxy bank stability	720	1.382	0.760	0.152	3.164
LogZ_alt	The log of z-score (alternative measure) following Lepetit and Strobel (2013)	720	1.373	0.763	−0.388	3.224
DirRem	Yearly director's remuneration in thousand USD	720	643.812	609.746	66.282	1945.670
SSBRem	Yearly SSB's remuneration in thousand USD	427	108.751	126.104	7.576	864.668
ExRem	Yearly executive's remuneration in thousand USD	493	1763.023	1835.545	131.277	5617.000
CEORem	Yearly CEO's remuneration in thousand USD	229	519.610	473.934	40.626	3091.458
ExcessDir	Yearly excess director's remuneration in thousand USD	720	195.351	488.732	−540.674	1758.861
ExcessSSB	Yearly excess SSB's remuneration in thousand USD	427	20.745	91.465	−386.989	783.089
ExcessEx	Yearly excess executive's remuneration in thousand USD	493	458.386	1205.989	−2250.205	4907.891
ExcessCEO	Yearly excess CEO's remuneration in thousand USD	229	104.335	413.686	−495.737	2461.399
ROA	Return on assets to proxy bank profitability	720	0.005	0.030	−0.159	0.170
Size	Size of banks proxied by the natural logarithm of total assets	720	14.616	1.917	8.745	17.908
LATA	Liquid assets to total assets to proxy liquidity	720	0.247	0.120	0.059	0.692
CIR	Cost to income ratio to proxy (in)efficiency	720	0.757	0.357	0.320	1.569
INFL	Inflation	720	0.034	0.031	−0.021	0.295
GDPGR	Growth of GDP	720	0.042	0.023	−0.047	0.138

USD 557,500 per year. This dollar value is even more than two times what Qatar's *Shariah* board earns, although they ranked as the second highest-paid *Shariah* board members. We also provide the data for CEO yearly remuneration in our Table, and our statistics show that Malaysian CEOs have higher remuneration (approximately USD 644,190) than other CEOs. The lowest value could be observed in Saudi Arabia (USD 111,320), and this is also similar to other board-type remunerations.

Table 3 shows the dollar values of predicted and excess remuneration. The directors, SSB, executives, and CEO on average are over-remunerated by approximately USD 234,300; USD 20,790; USD 305,920; and USD 28,290; respectively. By reflecting on the characteristics and performance of the banks (as we could see in the determinant of the remuneration in Equation (2)), Qatar is the most over-paid country for the directors (with an excess of USD +1,017,910 per year), followed by Iraq (USD +655,010/year) and Oman (USD +541,850/year). Our statistics show that almost all directors are over-compensated, except Bangladesh, which is under-remunerated (USD −15,400/year).

Similar to the highest SSB remunerations, which are from the UK, the excess SSB remunerations also show that the UK ranks number one, with an excess value of USD 86,330 per year. All countries have excess for their SSB remunerations, while the Maldives is the only country with the lowest SSB excess value (USD 100 per year). Regarding executives, Saudi Arabia is also number one in overpaid executives (USD +1,625,740 per year), and this value is about 210 times the excess in South Africa (USD +7,730). Bangladesh is the only country with underpaid executives, and the negative excess value is quite significant (USD −140,250). Our estimation shows that most CEOs are over-remunerated, with the average value from our sample being USD +28,290. Only United Arab Emirates shows the lowest excess of remuneration, though it is not a major issue because the amount is only USD 0.03 per year.

4.2 | Main Result

Before performing the regression, we also check for multicollinearity issues by using a correlation matrix and variance inflation factors following Zhou et al. (2021). The result shows that there is no particular concern of multicollinearity between independent variables because the correlation coefficient and VIF for all variables are less than 0.6 and 2, respectively[13].

Table 4 shows the baseline regression results between excess compensation and bank stability. The results indicate that the *ExcessDir* and *ExcessSSB* have a positive association with bank stability, while *ExcessEx* and *ExcessCEO* do not show any significant impact. The variables *ExcessDir* and *ExcessSSB* are significant at the 1% and 5% levels, respectively, suggesting that our result is strong. This empirical evidence means that the high remuneration scheme in the BOD and *Shariah* supervisory board (SSB) could lessen the risk-taking incentive in Islamic banks. This result emphasises the importance of an inseparable two-layer governance system in Islamic banks. Both

TABLE 2 | Average remuneration by country (2011–2019).

CountryID	*N* Banks	*N* Dir (average)	DirRem (total)	DirRem (/ person)	*N* Ex (average)	ExRem (total)	ExRem (/ person)	*N* SSB (average)	SSBRem (total)	SSBRem (/ person)	CEORem (/person)
Bahrain	18	9.48	474.64	51.04	8.66	1174.18	115.84	3.57	93.88	31.25	157.63
Bangladesh	9	14.74	109.04	7.45	11.22	136.76	17.75	8.12	27.98	3.33	143.46
Egypt	3	9.11	673.53	71.20	11.67	3270.06	220.04	4.39	9.88	1.77	.
Indonesia	11	4.05	333.05	77.44	4.62	1012.39	205.75	2.38	73.19	30.57	.
Iraq	1	8.55	1577.26	143.39	5.60	2725.66	427.67	2.00	.	.	.
Kuwait	10	7.71	685.97	102.34	10.21	916.45	107.27	3.67	72.59	19.20	115.63
Malaysia	17	8.07	813.89	100.59	8.85	1618.44	199.69	5.43	126.74	24.28	644.19
Maldives	1	6.57	185.24	29.34	6.71	321.04	24.70	3.14	27.66	8.88	.
Oman	2	7.46	957.01	120.68	8.95	2154.46	234.91	3.70	124.65	35.93	188.16
Pakistan	7	7.57	219.84	25.05	9.42	1345.50	117.62	2.09	62.24	21.64	568.29
Qatar	5	8.68	1940.15	221.88	12.98	4356.06	430.13	2.61	273.24	91.08	.
Saudi Arabia	4	10.28	1228.93	120.18	10.06	5541.22	689.26	4.37	.	.	111.32
South Africa	1	9.00	542.38	61.24	3.00	472.39	162.82	3.33	.	.	209.39
Turkey	1	8.48	.	.	9.17	910.20	221.84	.	.	.	.
United Arab Emirates	7	7.88	781.13	109.65	6.74	799.82	200.11	3.48	.	.	122.63
United Kingdom	5	6.88	701.75	102.88	2.31	979.62	489.81	2.91	577.50	192.50	.
Yemen	2	8.85	196.17	21.80	9.36	297.97	36.55	3.57	.	.	.
Total	104										
Average		8.43	713.75	85.38	8.21	1648.95	229.51	3.67	133.60	41.86	282.59

Note: Please see Table 1 for variable definitions. All remuneration variables (DirRem, ExRem, SSBRem, and CEORem) are in thousand USD.

TABLE 3 | Predicted and excess remuneration value.

	DirRem		SSBRem		ExRem		CEORem	
CountryID	**Predicted**	**Excess**	**Predicted**	**Excess**	**Predicted**	**Excess**	**Predicted**	**Excess**
Bahrain	322.70	151.93	60.57	33.31	948.69	225.49	130.69	26.93
Bangladesh	124.44	−15.40	20.47	7.51	277.02	−140.25	138.13	5.33
Egypt	597.21	76.32	9.63	0.25	3,072.77	197.29	.	.
Indonesia	231.02	102.03	64.83	8.36	839.82	172.58	.	.
Iraq	922.25	655.01	.	.	2,681.65	44.01	.	.
Kuwait	302.10	383.87	57.89	14.70	521.57	394.88	110.86	4.77
Malaysia	640.66	173.23	101.06	25.68	1,024.24	594.21	493.17	151.01
Maldives	173.32	11.92	27.56	0.10	321.04	0.00	.	.
Oman	415.17	541.85	122.32	2.33	1,520.99	633.47	185.85	2.31
Pakistan	170.01	49.83	42.32	19.92	981.83	363.67	507.50	60.79
Qatar	922.25	1,017.91	243.08	30.16	3,616.63	739.44	.	.
Saudi Arabia	919.29	309.64	.	.	3,915.48	1,625.74	108.10	3.22
South Africa	472.42	69.95	.	.	464.66	7.73	209.15	0.24
Turkey	.	.	.	.	880.31	29.89	.	.
United Arab Emirates	710.88	70.25	.	.	528.30	271.51	122.63	0.00
United Kingdom	557.73	144.01	491.17	86.33	959.59	20.03	.	.
Yemen	189.64	6.53	.	.	277.02	20.95	.	.
Average	479.44	234.30	112.81	20.79	1,343.03	305.92	222.90	28.29

Note: All values are in thousands of USD. The predicted value is the exponential of the fitted value of the estimation from Equation (1): $y = x1\ x2$. Excess is the difference between the real and predicted value of the remuneration.

of them have similar monitoring and advising functions in the bank but with a distinct focus. Islamic banks' SSB focuses on *Shariah*-related matters, whereas the BOD has a role in ensuring better performance-related issues. The BOD and SSB are parts of good Islamic governance, such as the emphasis on useful cooperation among authorities (companies) and members of communities (stakeholders). All of them are stressed in the *Al Quran* and *Sunnah* consensus (Jan et al. 2021)[14].

While previously the SSB was expected to focus on *Shariah*-related matters, recent discussion and empirical works even suggest that the SSB's role is vital and significant in bank performance (Elnahass et al. 2020; Farag et al. 2017; Mollah and Zaman 2015). The presence of reputed Islamic scholars in the SSB could maintain Islamic bank stakeholders' confidence, which indirectly leads to Islamic banks' performance. Nathan Garas and Pierce (2010) argue that the issued *fatwa* (Islamic judgement) could negatively affect the banks' performance and reduce stakeholders' confidence if negligent or unqualified *Shariah* scholars issue them. The failure of the SSB to meet stakeholders' expectations regarding the compliance of *Shariah*-related products and activities will therefore jeopardise the sustainability of Islamic banks (Meslier et al. 2020). This is because Islamic stakeholders could withdraw their funds from Islamic banks anytime when they perceive that the SSB does not work as it should (Ginena and Hamid 2015; Quttainah et al. 2013).

The SSB indeed has a substantial power to restrain management from engaging in aggressive risk-taking behaviour (Mollah and Zaman 2015), leaving a positive impact on the remuneration-stability nexus and also the positive impact of the SSB characteristics on the Islamic bank's performance (Mollah et al. 2016; Mollah and Zaman 2015). Good remuneration for *Shariah* scholar will be a good incentive for them to work more efficiently and fulfil their moral accountabilities (Elnahass et al. 2020). In this case, our result relevant to the 'efficiency wage hypothesis' and 'optimal contracting approach' theories emanating from the agency theory, especially for directors and SSB as part of the leader of the Islamic banks (Adams and Ferreira 2008; Bebchuk and Fried 2003; Unda and Ranasinghe 2019).

Regarding *ExcessEx* and *ExcessCEO*, we do not observe any significant impact. This means that the high remuneration design for the executives and CEO does not favour Islamic banks' stability and risk-taking. Looking back at the literature, this result is not without reason. Similar to their conventional peers, Islamic banks are in a heavily regulated environment. Financial institutions face a number of restrictions that will limit the investment opportunity sets. Bai and Elyasiani (2013) assert that financial institutions have limited growth options, extensively higher leverage, and are insured by depository institutions. Therefore, managers in financial institutions differ from those in non-financial firms because their managerial actions are limited by the regulation. Moreover, in the context

TABLE 4 | Baseline result: Excess compensation and bank stability.

	Excess =			
	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)
Excess	0.0520**	0.118***	0.0295	0.0146
	(0.0223)	(0.0321)	(0.0439)	(0.0301)
ROA	0.144***	0.139***	0.202***	0.0565
	(0.0211)	(0.0255)	(0.0313)	(0.0758)
Size	−0.385***	−0.410***	−0.370***	−0.360***
	(0.0494)	(0.0600)	(0.0684)	(0.128)
LATA	0.622***	0.825***	0.709**	0.684*
	(0.209)	(0.226)	(0.293)	(0.405)
CIR	0.00733	−0.0191	0.0170	0.0285
	(0.0287)	(0.0260)	(0.0400)	(0.0381)
INFL	−0.356	−1.011	0.224	−0.263
	(0.606)	(1.214)	(0.795)	(1.780)
GDPGR	0.839*	1.478*	0.991	4.372**
	(0.494)	(0.781)	(0.611)	(1.983)
Constant	7.132***	7.235***	7.116***	6.462***
	(0.688)	(0.806)	(0.994)	(1.153)
N obs.	720	427	493	229
N banks	103	65	79	33
R-sq.	0.460	0.536	0.496	0.573

Note: Random effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels respectively.

of Islamic banks, the executives and CEOs should also comply with *Shariah*. They cannot engage in the products forbidden by Islamic law, and to some extent, they have fewer opportunities than their conventional peers. For instance, when they have liquidity problems, they cannot seek funds from the money market because it is forbidden in Islam (Hassan et al. 2019). This argument is also supported by several empirical works. Houston and James (1995) do not find a significant impact of equity-based incentives and banks' charter value, and this is inconsistent with the hypothesis that compensation policies promote risk-taking incentives (moral hazard hypothesis). In a similar vein, employing a sample of 53 banks in Europe from 1999 to 2009, Ayadi in Barth et al. (2012) finds that the structure of compensation in the banking industry does not promote risk-taking.

Another reason why the excess remuneration of the executive and CEO does not favour Islamic banks' stability is that *Shariah* might also promote the collectivism value. For instance, a decision regarding the *Shariah* practice should be made collectively by all SSB members. Bitar et al. (2017) also report in their study that the mean of individualism culture in countries applying dual banking systems is 42%[15]. This means that collectivism values, in opposition to individualism values, are stronger in Muslim countries. Therefore, the moral hazard hypothesis should also be irrelevant in Islamic banks because Islamic banks' risk-taking is not determined by only the CEO or several people in the executives. The CEO and other board members' activities are limited only to their delegated banking tasks and policies (Jarque and Prescott 2020). Instead, it is more influenced by the activities of the whole organisation, such as their subordinates, particularly lending officers (Jarque and Prescott 2020). Moreover, although CEOs and executives receive substantially high excess remuneration, the highest portion of the labour wage paid by the banks always goes to the employees (Jarque and Prescott 2020).

5 | Robustness

5.1 | Split Sample: Small and Large Banks

We perform various robustness checks in this paper to ensure that our findings are strong. The first test splits the sample into banks below the average size (small banks) and those above the average (large banks). Table 5 shows that the coefficients of *ExcessDir* and *ExcessSSB* are negative and significant, similar to the result we obtained from the baseline. Once again, this result confirms that SSB plays an important role in *Shariah* governance within Islamic banking, regardless of bank size, as it has the authority to approve or reject an investment if it does not comply with *Shariah* (Meslier et al. 2020). Moreover, the directors or BOD also cannot approve a strategy without agreement from the SSB (Almutairi and Quttainah 2020).

5.2 | Other Estimations of Excess Remuneration

We also conduct additional robustness checks in this paper by changing one of the main points of this paper: the computation of the excess remuneration. As aforementioned, we follow Uhde (2016) by estimating the remuneration using bank size, time-fixed effects, and country-fixed effects. In the first robustness check, we use two other measures of excess. For the first excess proxy, we follow Uhde (2016) by only considering bank size to estimate remuneration because it is regarded as the most important factor in the banks' remuneration design. Executives typically will obtain higher pay in larger banks, and this is done to recompense the risk of larger banks they have to manage. Moreover, our result in Table 4 strongly shows a negative association between Size and z-score, implying a higher risk-taking from risky activities conducted by larger banks (Ibrahim et al. 2019). Therefore, the first alternative model of remuneration estimation is as follows.

$$\text{Rem}_{it} = \alpha_0 + \beta_1 \text{Size}_{it} + \epsilon_{i,t} \quad (4)$$

According to Brick et al. (2006), excess remuneration could also be measured by regressing real executive remuneration on all variables hypothesised to explain compensation. These variables are bank-level variables that presumably become strong predictors for remuneration (Hearn 2013). Therefore, we

TABLE 5 | Robustness: Small versus large banks.

	Small				Large			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0846**	0.143**	−0.0390	0.484*	0.0408*	0.142**	0.0472	0.0116
	(0.0431)	(0.0622)	(0.0996)	(0.250)	(0.0208)	(0.0566)	(0.0372)	(0.0221)
ROA	0.0972***	0.0680***	0.163***	−0.00261	0.447***	0.0503	0.239***	0.778**
	(0.0256)	(0.0233)	(0.0413)	(0.120)	(0.0817)	(0.109)	(0.0398)	(0.370)
LATA	1.354***	1.800***	1.683***	1.884**	−0.104	0.382	−0.164	−0.195
	(0.362)	(0.476)	(0.525)	(0.819)	(0.243)	(0.453)	(0.264)	(0.325)
CIR	0.0900**	0.0856**	0.114**	0.102	0.154***	0.0545	0.0843**	0.178***
	(0.0356)	(0.0426)	(0.0487)	(0.0766)	(0.0416)	(0.0544)	(0.0411)	(0.0631)
INFL	−1.173	−2.142	−0.756	0.962	0.419	1.329	1.619*	3.290**
	(1.327)	(2.260)	(1.536)	(4.146)	(0.620)	(1.228)	(0.932)	(1.368)
GDPGR	0.343	3.368	0.275	8.618*	1.133**	1.660	1.592**	2.180
	(1.230)	(3.083)	(1.720)	(4.887)	(0.572)	(1.053)	(0.685)	(1.906)
Constant	2.191***	1.614***	2.263***	2.650***	1.330***	1.125***	1.822***	1.974***
	(0.269)	(0.372)	(0.814)	(0.300)	(0.344)	(0.277)	(0.511)	(0.263)
N obs.	330	194	206	70	390	233	287	159
N banks	61	38	42	12	61	43	50	26
R-sq.	0.375	0.391	0.433	0.390	0.232	0.133	0.353	0.439

Note: Random effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

construct the following equation adopting prior literature such as Dah and Frye (2017) to estimate the second alternative model of excess estimation.

$$\text{Rem}_{it} = \alpha_0 + \beta_1 \text{LATA}_{it-1} + \beta_2 \text{Size}_{it-1} + \beta_3 \text{LLR}_{it-1} + \beta_4 \text{ROA}_{it-1} + \beta_4 \text{YearFE}_{it-1} + \epsilon_{i,t} \quad (5)$$

In Equation (5), there are four aspects presumably associated with the amount of remuneration in the firm: (i) LATA, defined as liquid assets to total assets, to proxy liquidity; (ii) Size, calculated as the logarithm of total assets to proxy firm complexity; (iii) LLR, defined as the ratio of loan loss reserve to total loan, to measure monitoring need, and (iv) ROA or return on assets to measure bank performance. Equation (6) is estimated using the fixed effects method.

We provide the result of using two alternative approaches of excess estimation in Table 6. It could be seen that the two other excesses also provide similar results. The *ExcessDir* and *ExcessSSSB* are significant (columns 1, 2, 5, and 6) whereas *ExcessEx* and *ExcessCEO* are not significant (columns 3, 4, 7, and 8). It could be therefore concluded that using other computations of excess does not alter our main result.

5.3 | Another z-Score Approach

For the second robustness check, we change the dependent variable. The z-score is the widely used risk-taking measurement in the banking literature because of its simplicity in constructing the measurements. As aforementioned earlier, there are various z-score proxies and in this paper, for alternative, we use Lepetit and Strobel (2013)'s method. Their z-score is technically calculated by using mean and standard deviation estimates of ROA calculated over the full sample and combining these with the current period of EQTA as follows.

$$Z_{it} = \frac{\mu \text{ROA} + \text{EQTA}_{it}}{\sigma \text{ROA}} \quad (6)$$

Lepetit and Strobel (2013) show that the z-score, as in Equation (6), is also a sound z-score measurement compared to other proxies because it empirically displays a fair level of intertemporal volatility on bank level and low-level potentially spurious volatility compared to the construction of time-varying z-score more generally. It is also very practical because the calculation does not need to drop observations as in the rolling method.

TABLE 6 | Robustness: Using other estimations of Excess.

	Excess by Uhde (2016)				Excess by Dah and Frye (2017)			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0547***	0.135***	0.0201	−0.00345	0.0590***	0.127***	0.0365	0.00458
	(0.0201)	(0.0348)	(0.0334)	(0.0179)	(0.0200)	(0.0422)	(0.0230)	(0.0218)
ROA	0.144***	0.141***	0.203***	0.0571	0.133***	0.184***	0.136***	−0.389
	(0.0214)	(0.0244)	(0.0317)	(0.0762)	(0.0286)	(0.0261)	(0.0400)	(0.558)
Size	−0.384***	−0.385***	−0.370***	−0.359***	−0.399***	−0.469***	−0.389***	−0.236***
	(0.0492)	(0.0574)	(0.0684)	(0.127)	(0.0584)	(0.0818)	(0.0839)	(0.0848)
LATA	0.624***	0.831***	0.711**	0.689*	0.196	0.253	0.123	0.0291
	(0.208)	(0.224)	(0.291)	(0.406)	(0.202)	(0.246)	(0.280)	(0.398)
CIR	0.00839	−0.0170	0.0174	0.0287	−0.0330	−0.0781***	−0.0405	0.0292
	(0.0288)	(0.0258)	(0.0404)	(0.0382)	(0.0234)	(0.0236)	(0.0320)	(0.0670)
INFL	−0.352	−0.961	0.206	−0.318	−0.402	−1.680*	0.0652	0.686
	(0.606)	(1.193)	(0.782)	(1.832)	(0.480)	(0.935)	(0.622)	(1.120)
GDPGR	0.849*	1.448*	0.996	4.429**	0.861*	0.801	1.035*	3.127*
	(0.495)	(0.773)	(0.610)	(1.968)	(0.493)	(0.617)	(0.590)	(1.632)
Constant	7.120***	6.837***	7.134***	6.446***	7.339***	8.341***	7.368***	4.208***
	(0.687)	(0.768)	(0.989)	(1.151)	(0.826)	(1.149)	(1.244)	(1.291)
N obs.	720	427	493	229	523	306	382	189
N banks	103	65	79	33	86	56	72	29
R-sq.	0.462	0.537	0.496	0.573	0.401	0.464	0.417	0.491

Note: Random effects regressions. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

We provide the result in Table 7 column (1–4). It is clear that our result is still consistent. We do not find any changes in the significance of our main variables.

5.4 | Robustness Checks for Endogeneity

Prior studies such as Uhde (2016) and Unda and Ranasinghe (2019) highlight the potency of endogeneity stemming from the reverse-causality issue between remuneration and risk. On the one hand, we hypothesise in this paper that risk-taking is a function of remuneration, and we obtain the result as predicted. On the other hand, remuneration is also a function of risk-taking because the firm with higher risk-taking will pay its managers more as a result of the firm's risk, which the managers have to take into account. In other words, the bank's risk may not be determined solely by the remuneration of the current year. However, previous remuneration could also have a significant effect. To solve this issue, we lag our excess variables and provide the result in columns (5–8) of Table 7. We find a positive and significant coefficient for *ExcessDir* and *ExcessSSB*, significant at the 10% and 5% levels, respectively, which is similar to our main result. The variables *ExcessEx* and *ExcessCEO* also show similar results, as they are insignificant.

In addition to using lagged remuneration or independent variables, we also use the generalised method of moments (GMM) since this technique uses lagged dependent variables as internal instruments to control for endogeneity (Roodman 2009). GMM can internally transform the data using a first-differencing transformation (one-step GMM) or a second-order transformation (two-step GMM). We used the two-step GMM to minimise data loss during the transformation process, as it provides more precise results (Arellano and Bover 1995). The results in Table 8 remain robust, with *ExcessDir* and *ExcessSSB* showing significant influence on bank risk.

5.5 | Other Robustness Checks

To provide various robustness checks for our findings, we conduct other robustness checks. First, we follow Uhde (2016) using the fixed effect technique to re-estimate Equation (3) which

TABLE 7 | Robustness: LogZ_alt and Lag Excess.

	Dependent variable = LogZ_alt				Dependent variable = LogZ			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0461***	0.115***	0.0322	0.00443				
	(0.0164)	(0.0390)	(0.0223)	(0.0210)				
Lag Excess					0.0425*	0.0710**	−0.0101	−0.00759
					(0.0217)	(0.0343)	(0.0354)	(0.0280)
ROA	0.0382*	0.0555*	0.0243	−0.550	0.0744***	0.0640***	0.0803***	−0.0268
	(0.0198)	(0.0296)	(0.0235)	(0.439)	(0.0167)	(0.0247)	(0.0263)	(0.137)
Size	−0.378***	−0.423***	−0.334***	−0.262***	−0.338***	−0.364***	−0.286***	−0.387***
	(0.0548)	(0.0810)	(0.0779)	(0.0864)	(0.0396)	(0.0504)	(0.0571)	(0.138)
LATA	0.216	0.202	0.131	−0.0467	0.431***	0.495**	0.340	0.193
	(0.188)	(0.220)	(0.254)	(0.345)	(0.164)	(0.194)	(0.227)	(0.360)
CIR	−0.0157	−0.0412**	−0.0190	0.0284	0.00329	0.00235	0.00964	0.0327
	(0.0193)	(0.0192)	(0.0244)	(0.0612)	(0.0192)	(0.0187)	(0.0237)	(0.0509)
INFL	−0.478	−1.594*	−0.141	0.512	−0.674	−1.554	−0.883	−0.949
	(0.455)	(0.819)	(0.607)	(0.994)	(0.512)	(1.073)	(0.761)	(1.311)
GDPGR	0.807*	0.836	1.068*	3.051**	1.267**	1.098	1.829***	2.974*
	(0.488)	(0.565)	(0.589)	(1.482)	(0.525)	(0.759)	(0.698)	(1.542)
Constant	7.062***	7.691***	6.571***	4.668***	6.608***	6.831***	6.034***	6.812***
	(0.777)	(1.146)	(1.160)	(1.324)	(0.544)	(0.663)	(0.801)	(1.348)
N obs.	528	310	388	189	657	390	457	203
N banks	86	56	72	29	101	63	77	31
R-sq	0.373	0.413	0.343	0.578	0.345	0.388	0.314	0.573

Note: Random effects regressions. Please see Table 1 for variable explanations. All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

presents the result in Table 9 column (1–4). The results do not change, and the level of significance is similar to those in our baseline result. The *ExcessDir* and *ExcessSSB* are significant at levels of 5% and 1%, respectively.

Second, some studies such as Unda and Ranasinghe (2019) use the real value of remuneration and do not estimate the excess. This is very reasonable if we do not have the purpose of estimating the excess and our analysis only focuses on the impact of remuneration levels on risk-taking. In this last robustness, instead of using excess, we estimate Equation (3) using the real value of remuneration (in the logarithm form). However, we find no changes in the results, as shown in Table 9 column (5–8).

6 | Conclusion

This paper investigates how the remuneration policy in Islamic banks shapes risk-taking. Specifically, we investigate whether a high remuneration policy in Islamic banks could provide the board incentive for risk-taking, aligned with the 'moral hazard hypothesis' or 'managerial power approach'. We collect data on the remuneration of the directors, SSB, executives, and CEOs of the 104 Islamic banks operating in 17 countries for the period between 2011 and 2019. We use all board types because those are an integral part of Islamic banks' governance, and this approach differs this study from other prior works either in Islamic or conventional banks. Our empirical finding suggests that the two aforementioned hypotheses are not confirmed. Although Islamic banks' boards are over-remunerated, the high payment received by the directors and the SSB can mitigate the risk-taking incentives and, therefore, maintain Islamic bank's stability. The BOD and SSB are integral parts of Islamic banks' governance. Each of them has its own important monitoring and advising function, and a good payment policy is needed for these functions. Whereas the BOD focuses on how Islamic banks behave prudently and maintain good accounting performance, the SSB has an objective to verify that all Islamic banks' transactions do not violate the *Shariah*. *Shariah* governance is even more

TABLE 8 | The generalized method of moments (GMM).

	Excess =			
	Dir	**SSB**	**Ex**	**CEO**
	(1)	**(2)**	**(3)**	**(4)**
Excess	0.0251*	0.0673***	0.0309	−0.00553
	(0.0131)	(0.0154)	(0.0237)	(0.0127)
L.LogZ	0.580***	0.458***	0.520***	0.435***
	(0.0337)	(0.0225)	(0.0323)	(0.0564)
ROA	0.166***	0.161***	0.209***	−0.00332
	(0.0103)	(0.00754)	(0.0114)	(0.0158)
Size	−0.407***	−0.594***	−0.461***	−0.569***
	(0.0367)	(0.0256)	(0.0358)	(0.0797)
LATA	−0.00160	0.0755	0.00742	0.286
	(0.0949)	(0.0745)	(0.0987)	(0.236)
CIR	−0.0279***	−0.0504***	−0.0199	−0.0776*
	(0.00987)	(0.00716)	(0.0128)	(0.0455)
INFL	−0.162	0.238	0.0602	0.696*
	(0.180)	(0.313)	(0.218)	(0.392)
GDPGR	0.148	0.0574	−0.145	0.134
	(0.206)	(0.232)	(0.306)	(1.327)
Constant	6.547***	9.218***	7.463***	9.212***
	(0.553)	(0.411)	(0.531)	(1.233)
N obs.	501	283	320	165
N banks	95	58	67	27
Sargan test	38.40	34.95	30.45	9.478
AR1 (*p* value)	0.0857	0.0062	0.1555	0.0468
AR2 (*p* value)	0.5061	0.7912	0.8144	0.9196

Note: The generalized method of moments estimation. The dependent variable is bank stability (LogZ). Please see Table 1 for variable explanations. All regressions use year and country fixed effects. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

important nowadays because it provides the public and customers with confidence regarding *Shariah*-related matters. These aspects can mitigate the risk uniquely in Islamic banks, such as withdrawal risk. All in all, our results support another theory augmented by the agency theory, that is, the 'efficiency wage hypothesis' or 'optimal contracting approach'.

In this paper, we also find that excess remuneration in executives and CEOs does not impact Islamic banks' risk-taking incentives. Different from the advisory and supervisory roles played by the BOD and SSB, the executives and CEO have a direct role in managing companies' day-to-day activities and possibly have a direct role in the risk-taking policy of Islamic banks. However, it should be noted that financial institutions are different from non-financial institutions. The banks are considered one of the most highly regulated institutions and therefore the CEO and managers have limited growth and investment opportunities. The banks also have a distinct leverage profile, which makes them behave very prudently because of their interconnectedness with other banks and other non-financial institutions. The fact that Islamic banks have lots of *Shariah* objectives and requirements could also be the driver of the minor managerial role of the executives and CEOs of Islamic banks.

Our findings have great implications for the regulators. The main issue brought from the result of this paper is that good monitoring activities from the BOD and *Shariah* board will have a significant impact on reducing risk-taking incentives and, therefore, promoting the soundness of Islamic banks. The BOD and SSB are an integral part of the Islamic banks' good governance system. Theoretically, there should be more extensive monitoring activities rather than those in conventional

TABLE 9 | Robustness: Fixed-effects estimation and the real value of remunerations.

	Fixed effects regression				Real value			
	Dir	SSB	Ex	CEO	Dir	SSB	Ex	CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Excess	0.0509**	0.0965***	0.0287	0.00288				
	(0.0246)	(0.0311)	(0.0441)	(0.0247)				
Rem					0.0546***	0.103***	0.0297	0.0115
					(0.0189)	(0.0274)	(0.0321)	(0.0191)
ROA	0.160***	0.187***	0.221***	0.0137	0.144***	0.141***	0.203***	0.0565
	(0.0209)	(0.0302)	(0.0268)	(0.0279)	(0.0215)	(0.0244)	(0.0314)	(0.0759)
Size	−0.560***	−0.728***	−0.637***	−1.031***	−0.393***	−0.407***	−0.377***	−0.364***
	(0.0869)	(0.114)	(0.122)	(0.108)	(0.0494)	(0.0593)	(0.0682)	(0.129)
LATA	0.475**	0.554***	0.480**	0.332	0.624***	0.858***	0.705**	0.686*
	(0.185)	(0.186)	(0.240)	(0.293)	(0.209)	(0.225)	(0.291)	(0.405)
CIR	−0.0283	−0.0943***	−0.0468	−0.189***	0.00874	−0.0148	0.0177	0.0284
	(0.0310)	(0.0316)	(0.0508)	(0.0311)	(0.0288)	(0.0261)	(0.0402)	(0.0380)
INFL	−0.541	−1.390	−0.133	−1.434	−0.357	−0.941	0.219	−0.265
	(0.555)	(1.068)	(0.710)	(1.210)	(0.609)	(1.209)	(0.779)	(1.783)
GDPGR	0.862*	1.416**	0.802	4.354***	0.844*	1.543*	0.993	4.379**
	(0.468)	(0.665)	(0.533)	(0.772)	(0.495)	(0.789)	(0.611)	(1.974)
Constant	9.387***	11.54***	10.58***	16.36***	6.928***	6.712***	7.035***	6.433***
	(1.255)	(1.631)	(1.761)	(1.653)	(0.687)	(0.791)	(1.015)	(1.137)
N obs.	720	427	493	229	720	427	493	229
N banks	103	65	79	33	103	65	79	33
R-sq.	0.476	0.586	0.532	0.727	0.463	0.540	0.497	0.573

Note: Please see Table 1 for variable explanations. The dependent variable is bank stability (LogZ). All regressions use year and country fixed effects. Robust standard errors are in parentheses. *, **, and *** denote significance in 10%, 5%, and 1% levels respectively.

banks because the two layers of governance supervise the CEO and managers in Islamic banks. Therefore, it is plausible that the regulators should provide a good remuneration design, especially for the BOD and SSB. In some countries, such as Indonesia and Malaysia, the government has taken specific action on this issue, such as regarding the appointment and validation of the *Shariah* board in each Islamic bank.

Acknowledgments

The early draft of this paper was written while Tastaftiyan was serving as a post-doctoral fellow at the University of New Orleans in 2021. We thank AMINEF-Fulbright for funding this research. We also thank Inas Nurfadia Futri and Bimo Saktiawan for their assistance, particularly with the data. All errors remain the sole responsibility of the authors.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Endnotes

[1] https://tribune.com.pk/story/672546/takeaway-the-curious-case-of-a-bank-ceos-salary.

[2] https://www.forbes.com/sites/rainerzitelmann/2019/10/07/why-do-so-many-people-think-that-ceos-earn-too-much/?sh=2d11af03152e.

[3] Meezan Bank is Pakistan's first and largest Islamic bank, offering a range of Shariah-compliant products.

[4] See, for example, (Daher et al. 2015) and (van Greuning and Iqbal 2008) for more details.

[5] For brevity, we do not provide a list of all prior studies on the issue of stability and risk-taking.

[6] In Islamic banks, the board of directors and *Shariah* supervisory board is an integral part of governance. Each board type provides one layer of governance to increase the effectiveness of Islamic banks' operational activities, which substantially differs from those of conventional peers.

[7] Indeed, there are a large number of Islamic scholars. However, the number of reputable Islamic scholars who are publicly well-known and who bring confidence to Islamic banks' customers is very limited.

[8] Gümüsay (2015) highlights that in Islam when people work, they see work as a religious duty, a form of 'wor(k)ship' to seek God's bounty.

[9] The term 'trade' refers to *Murabaha* contracts, while 'equity financing' refers to *Mudaraba* and *Musharaka* contracts. Please see (Meslier et al. 2020; and Silvia et al. 2024) for details.

[10] This approach aligns with previous researchers, such as Mueller and Sfrappini (2022) who ended their sample in 2019 to avoid the impact of COVID-19 on regulatory risk and bank lending; Essers and Ide (2019) who created a sub-sample of programs related to IMF to avoid the confounding effects of crises; and Tekin and Polat (2020) who excluded period of the Dot-com bubble in the United States during 1995–2001.

[11] This is also the reason why in this paper, we use the word 'remuneration' when we discuss our data and empirical method and empirical result.

[12] However, we will also use the real value of remuneration (not an excess) in the robustness section.

[13] For the sake of space, we do not provide the Tables of correlation and VIF in this paper, but they are available upon request.

[14] *Al Quran*: 3:104, 5:2, and 9:71.

[15] Bitar et al. (2017)'s sample is Muslim-dominated countries except for the Philippines, South Africa, and the United Kingdom.

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